

A STUDY  
OF  
CERTAIN ASPECTS OF MATERNAL BEHAVIOR  
RELATING TO THE INITIATION OF PRENATAL CARE

by

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CHAPTER I  
INTRODUCTION

Statement of the Problem

The value of prenatal care as a basic preventive service has become accepted as an important phase of the health care of pregnant women. Most women in the United States receive some prenatal care, but there is a wide variation in the stage of pregnancy at which care is initiated (1, 4, 8, 10). Numerous studies (2, 9, 15, 23, 32) in maternal and child health evaluating the adequacy of prenatal care by various indices and standards indicate a correlation between inadequate prenatal care and low socioeconomic status and low educational level. Utilization rates of medically indigent gravidae which make up the principal teaching service of the Prenatal Clinic of the Outpatient Department of the University of Oregon Medical School seem to conform to this pattern. Data based on gestation age at onset of prenatal care indicate that these women tend to commence care late in the course of their pregnancy. These findings correspond to the general pattern found in other studies reporting a direct relationship between socioeconomic factors and utilization of

health care (4, 7, 11, 16, 21). The available evidence indicates that people of low socioeconomic status do not accept scientific medicine, and their beliefs and values related to health were important factors which adversely affected their receptivity to health care.

#### Purpose of the Study

The purpose of this study is to describe the beliefs and expectations of married pregnant women concerning prenatal care and to explore the relationship between these and the stage of pregnancy in which care is initiated. Beliefs are to be regarded as one area of behavior relating to the individual's perceptual and cognitive processes. Belief is to be used in the common sense of the term to include ideas, opinions, faiths, knowledges, and views (12).

The following factors will be considered in relation to the trimester of initiation of prenatal care, and the social characteristics of the gravidas:

1. Influence of other individuals
  - a. Peers
  - b. Family
  - c. Professional personnel
2. The gravida's observations and concept of time in pregnancy
  - a. Calendar
  - b. Symptoms in pregnancy
3. Process of initiating care

### Hypothesis

For the purpose of this study it is hypothesized that there is a significant difference between statements which married gravida (as clinic patients) make about prenatal care and their behavioral practices in initiating care.

In testing the hypothesis stated above, it will be necessary to identify the beliefs and expectations of each gravida toward prenatal care as a conceptual set or pattern of concepts to determine if her verbal statements are similar to or different from her behavior in seeking care. The gravida's verbal statements are to be analyzed in relation to the trimester of pregnancy in which care is initiated. Two major types of conceptual sets will be established and labeled by the terms medical and social.

### Discussion of the Hypothesis

The increase in the general educational level of the public, coupled with extensive health education campaigns emphasizing the value of prenatal care, has had its influence on the use of health services for maternity care. Although dimensions of the concept of prenatal care have expanded to include parent education and mental health, prevention is the most important phase of prenatal care. The rise in the utilization of prenatal care may be considered an investment in preventive care, since it involves

the use of medical services not to treat an illness but to ward off potential ill-health.

Expectant mothers in the lower socioeconomic group are subject to various influences in their social situation that limit their recognition of needs for preventive practices and inhibit their seeking medical care. However, it is likely that educational influences, both formal and informal, have had some effect on this group of patients. This education should allow them to verbalize to some degree the rationale for prenatal care, although they might not have reached the point of conforming to the generally recommended standards of care in their behavior.

#### Definition of Major Concepts

Preventive medical care is defined by George Rosen (14), as "that service which is rendered to an apparently healthy individual to withstand the impact of deleterious elements." Basic to preventive care are the periodic examination of the individual and health education. Prenatal care may be defined as,

the complete health supervision of the pregnant woman in order to maintain, protect, and promote the health and well-being of the mother, the fetus, and the new born infant.

The objective of prenatal care is to bring to all pregnant women a high quality of care beginning in the first trimester of pregnancy and continuing throughout pregnancy so that optimal health may be



reached, complications may be identified in their incipient stage and well managed, and guidance may be provided for all expectant parents (29).

#### Limitations

1. The subjects who are interviewed on their initial visit to the University of Oregon Medical School Prenatal Clinic will be limited to approximately thirty married primiparas without previous care.
2. The patient will be excluded from the sample if she or the physician are in doubt about the diagnosis of pregnancy.
3. The study will focus on the cognitive aspects of behavior toward prenatal care, rather than the affective aspects.
4. The utilization of a non-probability sampling design limits the extent to which the findings may be generalized.
5. No attempt will be made to rate adequacy of prenatal care or the gravida's knowledge of pregnancy or childbirth.

#### Assumptions

1. An individual's ideas and behavior toward health are socially and culturally conditioned by a complex of factors such as socioeconomic status, educational level, and commonly shared behavioral characteristics.
2. An understanding of any individual's beliefs and behavior toward prenatal care must be based on observation of the behavior of individuals.
3. The beliefs and behaviors of expectant mothers toward prenatal care may be identified, systematized, and interpreted.
4. In general, expectant mothers attending a publicly supported prenatal clinic may be regarded as members of the lower socioeconomic group.

### Significance of the Problem

One of the perplexing problems to members of the various health professions is the lack of response to health education measures, and the relatively low utilization of preventive medical services in the lower socioeconomic groups. The high incidence of perinatal mortality and inadequate prenatal care among these groups has been consistently documented in various studies (2, 20, 22). In writing about the reoccurring evidence of the gaps that exist in the inadequacy of prenatal care in the lower income groups, Rosenfeld states that (15),

The marked variations in adequacy of prenatal care among the various groups in the community,....should be a source of concern to hospitals, public health organizations, and the medical profession. Each group has responsibilities for education of the public concerning the importance of adequate prenatal supervision. Studies should be undertaken possibly on a cooperative basis among various interested agencies to further clarify reasons for inadequacy of prenatal care.

Willie (30), in a recent ecological study of infant mortality points out that the reason why pregnant women in lower-income families do not seek prenatal care, even when it may be available without charge, is a sociological problem worthy of research and study. He indicates that one possibility is that lower-income people are constricted in their ability to reach out to community health and welfare services for help. A second possibility is that

many lower-income women do not know what services are available. A third possibility is that variations in the use of medical services during pregnancy may be a "function of variation in cultural values of different populations of people."

A basic premise of this study is that the data made available through a process of identifying the clinic gravida's concepts and rationale for prenatal care would provide information which could be used to help improve prenatal care. Knowledge about the expectant mother's ideas concerning prenatal care, and how these are related to her use of medical care facilities, has implications for curriculum changes and for parent education classes in the outpatient clinic.

Ozzie Simmons, in his review of suggested areas for research on social class and public health asserts that (21),

The available evidence on the subcultures of lower-status people, scanty though it is, indicates that there may be sufficient divergence between lower-class value patterns and the middle-class values embodied in public health precepts and practices so that the latter may have little relevance to the felt needs of the lower-status public.

Since lower-status groups are the major target of public health effort, relevant research in public health must systematically take into account the idea and action patterns and values of these groups. In order to help the patient learn, the health worker must know the reference points from which the patient starts. To encourage new learning, the health worker must know about the obstacles inherent in the patient's old learning and how much these can compete with public health teachings or make them meaningless.

It is hoped that as a result of this study, some relationship will be shown between an expectant mother's behavior and her views toward prenatal care. This information possibly may lead to further insights for further research.

### Design for Research

In order to study certain aspects of maternal behavior related to the initiation of prenatal care an interview schedule consisting of open-ended questions, reviewed in Chapter III, was used. The interview schedule was constructed to elicit responses regarding the gravida's social characteristics and her conceptions toward prenatal care. Interview replies were recorded verbatim.

### Procedure

The procedure for the study was as follows:

1. The target population was selected for study from among the patients in the Prenatal Clinic of the University of Oregon Medical School.
2. An open-ended interview schedule was constructed to obtain the data.
3. The interview schedule was pretested in the prenatal clinic.
4. Standard categories for the purpose of coding and recording the data for analysis were determined.
5. The qualitative data were categorized for general content analysis and to explore several aspects of maternal behavior towards prenatal care.
6. Conclusions were drawn and recommendations were made.

### Definitions

For the purpose of this study the following category sets were established to code the gravida's concepts of prenatal care:

1. Medical
  - a. Preventive: those patients who view prenatal care as a means of averting, or detecting a pathological condition or ill health.
  - b. Therapeutic: those gravidae who visit the physician for short term relief of symptoms or because they feel ill.
  - c. Miscellaneous: those gravidae who seek prenatal care for medical reasons other than those stated above. (e.g. obtaining a bed for delivery).
2. Social: those individuals who seek prenatal care for non-medical reasons (e.g. group pressures).

The criteria for defining the stage of pregnancy will be on the basis of trimester months:

First trimester: one to three months

Second trimester: four to six months

Third trimester: seven to nine months

### Overview of the Study

The remainder of the thesis is organized and presented as follows:

Chapter II, contains a survey of the literature and related studies.

Chapter III, provides a report of the procedure and findings.

Chapter IV, is the summary, conclusions, and recommendations for further study.

## CHAPTER II

### REVIEW OF THE LITERATURE AND RELATED STUDIES

In approaching the review of the literature an effort has been made to examine the significant social and cultural factors which influence the acceptance and utilization of health care. In attempting to specify the various factors influencing behavior in utilization of health care, focus shall be placed primarily on general studies concerning people's ideas and attitudes toward health, illness, and medical care. Variations in the utilization of prenatal care will be considered in detail.

#### Cultural Aspects of Health

Saunders (17), in Cultural Differences in Medical Care; and Paul (13), in Health, Culture, and Community show how health behavior is influenced by sociocultural factors and attitudes toward medical care. These authors have sought to correlate categories of illness and forms of medical care with specified cultural characteristics.

Paul (13), presented a series of cultural case studies of community responses to various types of health projects in both literate and non-literate societies. He indicated that many non-medical cultural characteristics are closely associated with health behavior. His

observation was that before one asked a group of people to assume new health habits one had to ascertain the existing habits, how these habits were linked to one another, what functions they performed, and what they meant to those who practiced them. He concluded that the "threads of health and illness were woven into the sociocultural fabric and assume full significance only when perceived as part of the total design."

The problems of medical care among the Spanish-speaking people of the Southwest, and the folk medicine of these people are described in an extensive study by Lyle Saunders (17). Health beliefs, and health practices of this distinctive cultural group are related to a discussion of how these beliefs and practices affect their utilization of professional health care.

Although Dr. Saunders has focused essentially on one cultural group, the point of view presented has implications that extend beyond the needs and problems and relationships of any particular group. The heart of the problem is to provide better health services to a population whose members differ culturally or subculturally from those who have a professional responsibility to provide the care.

Saunders describes and points out how the culture of the Spanish-speaking people operates as a determining

influence on their behavior. There are important culturally derived differences between the professional health personnel and the Spanish-speaking people and their families which operate to limit the quality and quantity of health and medical services they receive. As an illustration, a cooperative health organization designed to provide better health care for over seven thousand Spanish-Americans in rural Colorado failed because of ineffective organization. "The means provided by the association were not those traditionally used by the Spanish-Americans in the area to meet their health and medical needs." Saunders points out that the implications of this

in the field of health, as in other action programs cutting across cultural or sub-cultural lines, must, if they are to be accepted, conform to existing perceptions, beliefs, attitudes, and practices of the group they are to affect.

Margaret Clark (6), describes the social, economic, religious, and folkloric characteristics which affect problems of health and illness in the low-income Mexican-American community of Sol si Puedes, California. Among the families of this community there are beliefs and customs regarding pregnancy, and childbirth, which directly influence maternal health practices. Although many women would prefer to be delivered at home, there is general acceptance of obstetrical service provided by the local



county hospital. Dr. Clark points out that there are "many factors involved in whether or not a woman will go to a doctor for prenatal care." One major factor is that the pattern of family authority may determine when an individual is free to seek and receive medical care.

Another report concerned with the medical practices of rural Spanish-Americans is that of Sister Mary Lucia van der Eerden (27). Sister Mary Lucia in describing the maternity care in a Spanish-American village of Northern New Mexico observed that the pattern of maternal care consisted of practices, institutions, and attitudes traditional among Spanish-Americans mixed with others derived from modern medical science. The findings relevant to the present study are concerned with the prenatal aspects of maternity care. Sister Lucia uses the term prenatal to designate the entire period of gestation up to the beginning of labor. A young expectant mother in the village of Ranchos de Taos is dependent on her mother or grandmother for advice concerning her condition. The concepts of a woman in regard to maternity are greatly shaped by those of other women one or more generations older than herself. The whole process of giving birth to a child is put in a category by itself: motherhood.

"There is little or no notion of the necessity of medical supervision during the whole birth cycle including the prenatal period." Few of the pregnant women consulted a

physician during pregnancy, although several were available in the adjacent town of Tao.

The author found that the mothers were quite reliable in their practical estimate of the date on which birth would take place. The methods of calculation were as follows:

1. Observe the phase of the moon on a day of the last menses. The same phase of the moon nine months later will be the date of delivery. (This is approximately 265.5 ((29.5 x 9)) days from the beginning of the last menses.)
2. Count back eight days from the first day of the last menses, and then nine moons forward. (This is approximately 257.5 ((29.5 x 9--8)) days from the first day of the last menses.)
3. Count back five days from the first day of the last menses, and then count forward nine months. (This is approximately 269.5 ((30.5 x 9 - 5)) days from the first day of the last menses.)
4. Count nine months forward from the first day of the last menses. (This is approximately 274.5 ((30.5 x 9)) days from the first day of the last menses.)

In 1960, six American medical scientists visited the Soviet Union to survey maternal and child health care (24). Although they found that the patterns of providing care in the two countries differ greatly, there exists a common ground of basic knowledge that can be shared. While the entire report is interesting, only the prenatal aspects are relevant to this study. Medical care of the pregnant woman in the Soviet Union is characterized

by a uniformity of approach and attitude. The medical records are the same in all sections of the USSR. This standardization of the records tends to promote a standardization of observation of patient management.

Early obstetrical registration is stressed and because the pregnant woman receives a paid vacation of 112 days, there is an incentive for her to register early in pregnancy in order for her to be certified for this absence from work. The working mother continues to work through the thirty-second week of pregnancy after which the "obstetric leave" of 112 days begins.

In general, prenatal visits are made at monthly intervals for the first seven months, every two weeks during the eighth month, and every week during the ninth month. Should complications develop during the prenatal course, there is a liberal use of consultation and hospitalization.

Prenatal classes are usually conducted by obstetricians but the normal delivery is usually carried out by a midwife.

Because of the comparative shortage of private automobiles, an extensive ambulance service is maintained throughout Russia. In the face of a complication of late pregnancy or in the event of the onset of labor, the patient dials the number of the ambulance dispatcher (i.e. Moscow 0303). A midwife on the ambulance is prepared to establish the reality of the diagnosis of labor and to accompany the patient to the hospital (24).

### Health Behavior Related to Social Class

The utilization of social class as a frame of reference encompasses not only cultural attitudes and values, but also economic standing.

Simmons (21), in reviewing the social factors in public health states that, "The individual's perceptions of and responses to health and illness.... are conditioned by a complex of class-linked variables that delimit what the individual is likely to define as deviances from health that require some remedial or combative action." Simmons discusses the differences between public health precepts which are formulated essentially by middle-class people, and are then directed primarily at lower-class people. He points out the conflicts between the values of the health worker of higher status and those of the lower status patients.

Simmons finds that there are six major differences in value orientations between middle-class and lower-class norms which have import with regard to public health emphasis on preventing illness. The six major middle class values are: 1) Emphasis on cleanliness. 2) Ability to defer gratifications in the interest of long-run goals. 3) High relative place of health in the hierarchy of values. 4) Rationality in planning and allocation of resources in the most efficient way. 5) A strong sense of individual responsibility. 6) An acceptance of scientific

medicine. Lower class norms may contrast with these in different ways. That is, lower class people do not emphasize dirtiness; on the other hand, they do not accept scientific medicine.

Numerous studies have indicated that illness and disability are more frequently found among the socially underprivileged segments of the community and that the receptivity to health care in these groups is relatively low.

Koos (11), in interviewing 550 families about their health attitudes and behavior, accumulated much valuable data on why people think and behave as they do about health and illness.

Koos describes some of the beliefs and health practices in an "average small community" in upstate New York. He indicated that the purpose of his study was not to improve the health facilities of the community as such but rather to do a pure research study. He utilized a threefold division to describe the family's membership in the social class system in the community where the study was carried out. Class I consisted of business and professional men, Class II of skilled and semi-skilled workers and farmers, and Class III of industrial and farm laborers and unemployed. The hypotheses, which he adequately supported were that,

The health attitudes and behavior of a family are related to its position in the social class hierarchy of the community, and are significantly affected by the prescriptions and proscriptions regarding health shared by those who are members of the same social class. Further, there is a difference in the way and degree to which people participate in health activities in the community which is significantly associated with their membership in a social class.

Koos reported consistent differences between social classes in how they perceive the presence of illness and their acceptance of health care. Factors which contributed to these differences were variations in educational achievement, experience, an ability to purchase medical care, in clique-held beliefs and in actual knowledge about health and disease.

The major reasons for not seeking treatment were that conditions were not considered important enough for a doctor's care, that the probable cost could not be afforded, and that cultural values and group influences were against securing treatment or utilizing medical care.

Ross (16), examines the relationship between social class and utilization of medical care. Ross, utilizing data from the 1957-1959 National Health Survey, reexamined the relationship between social class and medical care. He concluded that, at a nationwide level, the traditional, direct relationship between social class and use of physicians still persists.

In this study, interest was also directed toward the type of service received from the physician. Here, it was found that lower class people mainly go to the physician, when they go at all, for felt complaint. They seek some explanation of "what is wrong" and something to "fix it up." Upper class persons devote a greater share of their visits to preventative care, of less urgency and without the immediate goal of discomfort. Analysis of the data revealed that prenatal care was actually an intermediate case, in that some discomfort often drove the patient to the physician's office, but yet the service rendered by the physician was in the realm of preventive care.

Friedson (7), in Patients' Views of Medical Practice "explored the attitudes and behavior of patients who have had experience with more than one way of organizing medical practice, and thereby sought to suggest some of the ways in which both lay and professional social structure figure in the utilization of medical care." The three types of medical plans were: 1) The Family Health Maintenance Demonstration, an experimental plan in which everyday health service was provided by an inter-professional team working in a prepaid, centralized medical group; 2) the Montefiore Medical Group, in which service was provided by individual physicians who worked within the framework of a prepaid centralized medical group; and 3) the traditional "solo" practice in which everyday care was provided by private physicians in a

fee-for service practice. The basic point of the book is that medical treatment involves much more than applied knowledge and critical expertness. The author views medical care as involving a system of relationships which include not only the patient but the physician, how the medical practice is organized, and the patients' community life. The data was provided by the patients through questionnaires and interviews about the doctor and professional practice as well as about themselves. The practice of the medical art, the author contends, depends on conditions which are sociological in character.

The patients felt that good health care required both technically competent treatment and an interest in the patient by the physician. Patients' attitudes about their own illness do not exist in a vacuum but are, in reality formed by events outside the doctor's office. An important element contributing to the formation of lay opinions about illness is the importance of lay inter-personal influence. This may extend to the point where a physician's opinion is rejected in favor of a lay diagnosis. The "lay referral system" consists of a network of consultants for potential or actual illness. "Indeed, the whole process of seeking help involves a network of potential consultants from the intimate and informal confines of the nuclear family through successively more select, distant, and authoritative laymen, until the 'professional' is reached."



### Utilization of Prenatal Care

A major study of the New York State Department of Health entitled, Social Class, Maternal Health and Child Care, was conducted in 1958 (3). It consisted of pre-constructed interviews with mothers of three-to six month old babies. This study was designed to explore the relationship of social class to health.

The experience of mothers during pregnancy and confinement and after the birth of the baby, as well as some of the health supervision practices were solicited. Findings were analyzed by four social class groupings, using the Warner Social Class Scale. These findings are briefly summarized as follows:

Two thirds of the families did not plan for the baby. More families planned for the first child than they did for other children. For the first child, it was the lower class that had planned more than the others, while the reverse was true for other pregnancies.

The lowest social class had the largest average number of pregnancies, the highest average number of children born dead, more born alive per mother, and the greatest number of children living at the time of the interview.

The vast majority of mothers visited a physician during the first trimester of pregnancy. "Seventy-five

per cent of the women interviewed had sought care prior to the fourth month." The month at which prenatal care was first sought varied by social class, lower class mothers tended to seek care later during pregnancy. The higher class mothers tended to seek care from obstetric specialists while the lower class mothers were cared for by family physicians or clinics.

A study in Aberdeen, Scotland by Scott and associates (18), was concerned with the relation of social class and intelligence to maternal behavior. "Intelligence was thought to be related to those aspects of maternal behavior which show social differentiation, e.g. family planning and use of social and medical services."

It was found that attendance at prenatal clinic talks was higher in the upper social classes. The reasons given by patients for non-attendance varied--illness, domestic responsibilities etc.-- but most women in the lower class thought that it was better not to know much about the process of childbirth. This same negativistic attitude to knowledge was commonly encountered in other fields, such as that of labor and family planning. The lower class patients derived most of their information about childbirth from relatives and friends. The only common alternative to gossip and folklore for most working class wives were articles in women's magazines. This is consistent with the findings of Koos.

Illsely (10), in an independent study in 1956 based on more extensive data, found that the influence of social class in determining the time of first attendance at the prenatal clinic in England under the Nationalized Health Program was negligible among Aberdeen primiparas. The small social gradient which did exist was entirely attributed to the fact that women who conceived prenuptially (more common in the lower social classes) postponed their first attendance until shortly after marriage.

Late attendance, it was found, increased with parity, particularly in the lower social classes. Women with previous abortions and stillbirths sought prenatal care earlier than other women of the same birth order.

The use of medical care varies among families according to income and education, the Health Information Foundation reports in a nationwide survey conducted in 1952-1953. Families with annual incomes of less than \$3,000 did not utilize medical skills fully and spent an average of \$112 per birth on medical services for maternity care, while families with higher incomes of \$3,000 or more spent \$276. "A general increase in educational levels nationwide has had its influence on the use of maternity services and on narrowing the differences in expenditures among income groups." The Nationwide Family Survey shows that promptness in the use of maternity care is directly related to educational level. By the end of the first trimester of

pregnancy, 90 per cent of college trained mothers had consulted physicians, whereas only 40 per cent of the mothers with eight years of education or less had done so. By the end of the second trimester, the proportion had risen to three fourths in the lowest educational group, and nearly 100 per cent in the upper two educational groups. One out of seven mothers with an eight-grade education or less had not seen a physician or midwife until delivery time (8).

In a parallel survey conducted by the Health Information Foundation in 1957-1958 (9), (five years after the previously reported study), it was found that "women who had a live birth at some time during a 12-month period in 1957-1958 sought medical care earlier in pregnancy and used more physicians' services than had expectant mothers five years earlier." In 1952-1953, 38 per cent of the women had seen a physician during their first or second month of pregnancy, while the proportion first seeing a physician by the end of the third month was 65 per cent. In the latter survey, the corresponding figures had risen to 51 and 77 per cent respectively. The proportion seeking prenatal care by the end of the fourth month was 79 per cent in 1952-1953 and 84 per cent in 1957-1958. The comparable figures at the end of the sixth month were 92 and 96.

"Thus in the early survey three per cent of the women who saw a doctor for their delivery received no prenatal care

(seeing him only at delivery), while in 1957-58 the comparable proportion was down to one per cent."

In both surveys the proportions seeking prenatal care early in pregnancy increased with family income. In the early survey, the proportion initiating care in the first trimester of pregnancy was 42 per cent in the low-income group (less than \$3,000 annually), 66 per cent in the middle-income group (\$3,000-4,999), and 89 per cent in the high-income group (over \$5,000). The comparable figures five years later were 67, 77, and 86 per cent respectively--"a similar pattern, although the range of variation between low and high income groups were less than formerly."

Similarly, in both surveys, "the proportions first seeing a doctor early in pregnancy increased as the educational attainment of the mother rose." In 1952-1953, the proportion seeking prenatal care during the first trimester of pregnancy was 42 per cent for "eight grade or less," 58 for "some high school," 72 for "completed high school," and 90 per cent for "some college." In 1957-1958 the comparable figures had risen for all educational groups except the "some college" gravidas to 57, 75, and 79 and 88 per cent respectively.

A survey conducted by Brightman et al. (4) in Syracuse, New York in 1955 aimed to determine the extent

to which recipients of public assistance knew of, and utilized, preventive medical and public health services available to their community. The findings were compared with similar data for other socioeconomic groups. It was found that medical care facilities and services available without financial barriers may still not be fully utilized. While the public assistance women infrequently failed to receive any prenatal care, they applied for such care much later during pregnancy and made fewer visits than the two comparative groups.

The Los Angeles County Hospitals in a survey of 7,000 mothers delivered in 1958, found that their prenatal care was inadequate (23). The general aim of this particular study was to help define the problems of prenatal care and to identify the socio-cultural groups where unmet needs were greatest. Prenatal care was classified as "adequate" if the first visit to the clinic was made in the fourth month of pregnancy, or earlier, and if at least five visits were made. Although there were no residence requirements for prenatal care in health department clinics, transiency was a factor in the adequacy of care received. Of those patients living in Los Angeles County less than one year, 21 per cent received adequate care compared with 31 per cent of those living in the county more than one year.

Three of each ten county gravidas had not reached high school. Patients with high school or college education

were more likely to have received adequate care.

If a patient made fewer than five visits, the interviewing public health nurse evaluated the important factors which were thought to be obstacles to adequate care. The principle reasons for non-attendance were:

PATIENTS ATTITUDES:	PER CENT
Did not feel care was important	25
Fear of doctors and clinics	8
Did not desire pregnancy	8
 LACK OF INFORMATION ABOUT NON-PAY CLINICS	 19
 EXTERNAL OBSTACLES	
Care of children	25
Working	10
Illness	7
 MISCELLANEOUS REASONS	 34

Patient attitudes and external obstacles were almost equal as reasons for inadequate care. The external obstacles may often have been rationalizations to justify "unacceptable" behavior.

This survey supported the conclusion that the problem of providing adequate prenatal care can be met by broadened efforts to inform, educate, and motivate patients and facilitate their obtaining adequate care (23).

Yankauer and associates (32), in a study of maternity patients who were recipients of welfare, evaluated prenatal care and its relationship to social class

and social disorganization. The patients were divided into two groups; the control group, who had adequate prenatal care; and the study group, who sought prenatal care late in pregnancy. The characteristics of the women in the two groups were carefully studied. Both groups possessed characteristics known to be associated with the economically underprivileged in our society. The results suggested that there was a greater degree of social disorganization within the study group as manifested by out of wedlock births, greater fertility, welfare dependency, greater mobility of the home, and lack of medical care which was available to all. Among the patients in the study group with inadequate care, one third saw no physician during their pregnancy until they were in labor. The median interval between the first prenatal visit and onset of labor in the remaining two thirds was thirty days. The incidence of neonatal deaths and prematurity was significantly higher in the study group. The authors concluded that "failure to seek prenatal care, in the case of the socially and economically underprivileged, is an outward manifestation of the rejection of pregnancy and the loss of a sense of personal dignity. These attitudes affect the fetus adversely by way of maternal nutrition and pattern of living."

Wishik (31), in a study made in Pittsburgh, in 1952 on the reasons why women seek prenatal care, postulated that women who had difficulty with a previous pregnancy would



seek care more conscientiously and earlier in subsequent pregnancies. He found that this did not turn out to be the case. There seemed to be no significant difference in the extent to which prenatal care was sought by those who had or had not had unfavorable experiences in previous pregnancies. The one factor that did have a statistical relationship was the amount of general education that the women had had. Even when economic differences were controlled, the number of years of attendance at school had a strong correlation with the seeking of prenatal care.

Broker (5), in an attempt to determine why 435 out of 3,948 San Jose, California women had no prenatal care until the third trimester of pregnancy, interviewed seven per cent of the group. He felt that lack of care was found to result from a combination of financial problems, no baby sitters, and inadequate perception of prenatal care. He concluded that professional workers should direct efforts toward discovering the perceptions of care held by mothers who did not receive adequate maternity care.

Baumgartner et. al. (1), relied on data from birth certificates in New York City in 1951 to describe the influence of socioeconomic status on prenatal care. A high incidence of women with late or no prenatal care were found to be from districts of low socioeconomic status.

Numerous studies have been conducted during the past several decades on the association between prematurity,

and neonatal mortality and prenatal care. Baumgartner and Pakter (2), noted that in New York City in 1955 those districts where the highest incidence of prematurity and perinatal deaths prevailed were the ones that had the highest incidence of late or no prenatal care. These were associated with births in municipal hospitals which care for the lower socioeconomic groups. In New York City, the percent of pregnant women with late or no prenatal care increased from 10.6 in 1951 to 15.6 in 1955.

Baumgartner and Pakter (2), speculated that the services offered by the city were so unattractive that people did not use them and therefore did not receive the protection that comes with early and continuing medical supervision. The authors visited various hospitals and gained the impression that prenatal clinics were, in general, overcrowded and understaffed, had too few physicians, and often lacked adequate obstetric supervision. The authors concluded that the 15 per cent of women who receive late or no prenatal care should be seen early enough in pregnancy to benefit from that care. "This will involve better methods of case-finding and better follow-up, and certainly the prenatal clinic must be brought 'out of the basement,' literally and figuratively."

Shapiro, Weiner, and Densen (20), in 1955, investigated the pregnancy experience of members of a New York pre-paid health insurance plan and compared the findings with

that of the general population of the city. The perinatal mortality rate for New York City in 1955 was 38.1 per 1,000 live births. The corresponding figure for patients in the prepaid health plan, after adjusting the sample for age and ethnic differences was 23.9. The authors reported that 67 per cent of the women enrolled in the prepaid health plan began their prenatal care in the first trimester of pregnancy, whereas only 47 per cent of New York women generally initiated prenatal care this early.

In a similar study in the District of Columbia (22), Swartz and West utilized data derived from official birth certificates to identify the population groups not receiving prenatal care and to study the association between lack of prenatal care and neonatal mortality. The authors found that the per cent of women with no prenatal care rose from six per cent in 1952 to 11 per cent in 1956.

The findings indicated that lack of prenatal care was greater for non-white, medically indigent patients, even though medical care was available to these people at the municipal hospital.

The association between neonatal mortality and lack of prenatal care was found to be  $2\frac{1}{2}$  times as great for mothers who had received no prenatal care as for those receiving some prenatal care. The authors concluded that,

Clearly, the socioeconomic status played no role in the association between lack of

prenatal care and neonatal mortality. Even more significantly it played no direct role whatsoever in neonatal mortality.

Willie (30), in an ecological investigation studied the neonatal mortality rates in four racial and population groups in Syracuse, New York during the period 1950 through 1956. The author used census tracts as the basic units of analysis. A socioeconomic status score was derived for each census tract. It was based on occupation, education, and housing characteristics of the population.

The study indicated that Negro and Native White populations have similar neonatal mortality rates when socioeconomic status is held constant. The findings indicated that,

Neonatal mortality rates are inter-correlated with family income in neighborhoods where at least half of the households receive less than \$2,700 per year; and that no association exists between the distribution of neonatal mortality by neighborhood and family financial status above the critical median income of \$2,700 per year.

Willie, speculates that it is quite possible that part of the increased incidence of neonatal mortality among families below the critical income level of \$2,700 was due to inadequate prenatal care experienced by pregnant women in these families.

In conclusion, the principle points of the review of the literature are as follows:

1. The utilization of health services is dependent on an individual's value orientations and ideas relating to health and illness, cost, and the lay referral system.
2. It is substantially documented that there is a direct relationship between utilization of medical care and the social class status of the family.
3. Results of studies conducted in large urban areas indicate that pregnant women in the lower socioeconomic group tend to seek care late in the course of pregnancy, which is associated with higher than average perinatal mortality rates.

CHAPTER III  
PROCEDURE AND FINDINGS

Procedure for Study

Description of the Setting

The study was conducted in the prenatal clinic of the Outpatient Department of the University of Oregon Medical School. The Outpatient Clinic has two major functions; it is a research and teaching facility for the medical school and it provides free and low-cost care for people unable to meet their own health care needs. These functions have certain implications for this study. First, it accounts for the socioeconomic characteristics of the patient population which are to be described later. Second, since the patients make up the principal teaching service of the Medical School, it leads to the presence in the clinics of medical and nursing students, and of a certain inefficiency with reference to time from the patient's point of view. Finally, research projects of various types are carried on in the clinic.

Eligibility for clinic services is determined on an individual basis prior to the patient's first clinic appointment. To establish eligibility for medical care, the patient must be a resident of Oregon, physically able

to come to the clinic for treatment, and without sufficient funds to pay for all or most of his medical care. Clinic cards issued to patients bear a code number indicating their clinic status based on a financial classification system used in the Outpatient Clinic Admitting Office. This classification is a crude index of income level:

CLINIC  
STATUS

- 1 Patients who are unemployed, those with large families, and who are receiving small or partial insurance claims for a temporary period of time. These patients pay twenty-five cents per clinic service.
- 2 Patients who are from self-supporting families with a probable income of about \$300-350 per month. They are medically indigent and pay two dollars for each clinic service.
- 1H Patients who are in clinic status 1, but who are unable to pay the twenty-five cent fee. The fee is deferred.
- 3X Patients who are from families that are completely dependent on State Agencies. These include public welfare patients.

A research project being carried out at the University of Oregon Medical School which had implications for this present study is a nationwide perinatal research study, the Collaborative Study on Cerebral Palsy and Other Neurological and Sensory Disorders of Infancy and Childhood. This study is supported by the National Institutes of Health. It is referred to locally as the Child Development Study and will be so referred to here. The Child

Development Study provided certain specific descriptive data about the clinic population. It, however, pre-empted approximately one third of the clinic patients, thus making fewer available for selection for this present study. During the period June 1, to September 30, 1962 when this study was conducted a total of 492 gravidae initiated prenatal care in the obstetrical clinic. Thirty-three per cent of the patients registering at the clinic were selected for the Child Development Study. Forty per cent of the gravidae available for selection in the present study resided outside the Portland metropolitan area.

During the period October through February, 1960; 475 gravidae initiated care in the Prenatal Clinic(25). Briefly, the characteristics of the total obstetrical clinic population based on Child Development Study tabulations were as follows:

1. Approximately 60 per cent resided in the City of Portland, Oregon, with an additional 15 per cent residing in the area adjacent to Portland.
2. Nearly 85 per cent of the gravidae were under 29 years of age. The median was 20-24 years of age.
3. Over 70 per cent of the clinic patients were White, and 27 per cent were Negro.
4. Approximately 30 per cent of the gravidae were recipients of public welfare, clinic status, 3X; 29 per cent were in clinic status 1; 24 per cent were in clinic status 1H; and 10 per cent were in clinic status 2.



5. Sixty-nine per cent of the gravidae stated they were married; 15 per cent were separated; 6 per cent were divorced; and 10 per cent were single.
6. Twenty-five to twenty-nine weeks of gestation was the median period of the gravidae initiating prenatal care. Roughly, this is the sixth to seventh month of pregnancy. Translating obstetrical weeks into trimester periods reveals the following pattern of initiating prenatal care:

First trimester, (1-13 weeks): 11 per cent

Second trimester, (14-27 weeks): 47 per cent

Third trimester, (28-40 weeks): 42 per cent

The foregoing description describes the total clinic population initiating prenatal care during a five month period. The Child Development patients are limited geographically to the metropolitan area of Portland, whereas the total clinic population includes gravidae from rural areas within the state. In a Monthly Statistical Report (26), dated March, 1961 cumulative figures on 908 project patients from the period March, 1959 to January, 1961 indicates that prenatal care was sought in the following trimesters:

First trimester, 11 per cent

Second trimester, 39 per cent

Third trimester, 48 per cent

Immediate delivery, 2 per cent

The primary function of the obstetrical clinic is to provide preventive, therapeutic, and diagnostic services to pregnant women. The standard procedure in the prenatal clinic for the initial visit is as follows: 1) complete

history; 2) complete physical examination; 3) pelvic examination; 4) laboratory tests including urinalysis, hematology, serology, and chest x-ray; 5) instructions about weight-gain, subsequent visits, and hygiene; and 6) medications such as vitamins and iron.

The schedule of clinic appointments is one visit every month until the thirty-second week of pregnancy, semimonthly until the thirty-sixth week, and every week until delivery.

Patients registering for the first time in a given pregnancy are segregated from gravidae returning for check-up. Two afternoons a week are devoted to patients coming on their initial visit; three mornings to gravidae already under care. This facilitates identification and selection of patients for research, as well as being clinically convenient.

#### Sampling

The original criteria specified for the selection of pregnant women in the sampling design were married, native-born White primigravidae, who had not seen a physician during the course of their pregnancy. The gravidae were to be stratified according to trimester of initiation of prenatal care for the purpose of analyzing the data. These criteria were modified to include gravidae IV because it was found that the total number of primigravidae attending the clinic

was small. The number of patients available for the present study was still further reduced because of exclusion of Child Development Study patients, non-White gravidae, and gravidae with previous medical care for their present pregnancy. The non-Whites constituted approximately one third of the total clinic population.

The original study design was to interview 60 primigravidae prior to seeing a physician during the course of their pregnancy, but this number was reduced to 30 due to the problems stated above. Because of modification of the sampling design the study population did not include a sufficiently large number of gravidae to allow for statistical analysis to test the hypothesis.

For its own purposes, Child Development Study personnel administers a screening interview to all new patients initiating prenatal care in the clinic. The data were recorded on a National Institutes of Health form, Obstetrical Administrative Record AR-1 presented in Appendix C. This includes basic data on the socioeconomic attributes of the gravida, information concerning previous and present pregnancies, and information necessary for the administration of the Child Development Study sampling design. Selection of patients for inclusion in the Child Development Study is based on a systematic sampling technique in which birth dates and residency in the metropolitan area (as defined by C-D-S) of Portland are key factors.

The Administrative Record, AR-1 was used by the investigator to select her subjects. Patients meeting the criteria defined for study were interviewed as they were listed in chronological order at the time of registration, prior to seeing the physician in the prenatal clinic. As many gravidae as possible from each clinic were interviewed in the time available. The subjects selected were not included in the Child Development Study and approximately 52 per cent were residents of areas outside the City of Portland, Oregon.

The final study design consisted of 31 married, native-born White gravidae with less than four pregnancies reporting for their initial visit to the prenatal clinic. One aspect of the research design was that the pregnant women were interviewed prior to seeing a physician during the course of their present pregnancy.

#### Collection of the Data

The study employs data obtained from 31 gravidae selected from among the Prenatal Clinic of the Outpatient Department of the University of Oregon Medical School during the summer of 1962.

The data were collected by means of responses to a standard interview schedule of open-ended questions. The interview schedule was constructed to obtain information concerning two major areas:

1. The respondents' personal history data.
2. The respondents' beliefs and behavior toward prenatal care.

The purpose of the study was briefly explained to each patient, and no subjects selected refused to participate. The gravidae were interviewed for approximately 40 to 60 minutes in an office set aside for this purpose. Non-directive probes were used to gain more information. Several gravidae were unable to provide adequate verbal reports of their beliefs and motivations toward prenatal care except in vague, general terms. Those patients who verbalized freely were interviewed more intensively. The subject's responses were recorded verbatim during the interview. The interview schedule is presented in Appendix B.

The patient's chart was utilized to obtain the gestation age at onset of care, expected date of delivery, and to validate certain medical and social information.

#### Validation of the Measuring Tools

The interview schedule was constructed so the vocabulary and syntax were appropriate to the educational level of the gravidae. The interview schedule used in the study was pretested in the prenatal clinic over a period of three months to determine if it offered maximum opportunity for complete and accurate reporting of data. In addition, it was submitted to members of the School of Nursing faculty

and to a social scientist on the Child Development Project for criticism and suggestions. The schedule was revised and then pretested on another group of gravidae in the clinic.

While it was not possible to categorize every aspect of the interview responses, standard categories for the purpose of coding the data for content analysis were predetermined and tested with an independent observer.

#### Findings of the Study

The findings of this study are based on responses obtained by interviews with 31 native-born, white gravidae, who were or had been married. They had less than four pregnancies, and were reporting for their initial visit to the prenatal clinic. The interview was obtained before the patient had visited any physician for prenatal care.

The population studied is described in Tables 1 to 14. All of the tables are presented in Appendix A. One aspect of the study was concerned with the question, "How soon after the onset of pregnancy do women attending a publicly supported clinic seek prenatal care?" Table 1 presents the percentage distribution of patients according to parity by the trimester of pregnancy when prenatal care was initiated. Sixteen per cent of the women interviewed sought care in the first trimester, or prior to the fourth month of pregnancy. Over half the gravidae (52 per cent)

sought care in the second trimester, and 32 per cent delayed prenatal care until the third trimester.

Table 2 shows cumulative percentages of the month at which prenatal care was first sought in the Obstetrical Clinic by parity. Fifty-two per cent of the study population sought prenatal care at or before the fifth month of pregnancy. A comparison of primiparas and multiparas shows that the former tended to seek prenatal care earlier. Because of the nature of the sample and the small number of primigravidas in the study group, statistical tests of significance were inappropriate.

Data based on gestation age at onset of prenatal care were analyzed in relation to the social characteristics of the patients. The marital status of each gravida in the study is shown in Table 3. Eighty-seven per cent of the patients were married and living with their spouse; divorced and separated gravidas comprised 6.5 per cent in each category.

Table 4 indicates that 22 per cent of the gravida in the study population were employed at the time they became pregnant. Table 5 shows that of the patients who were employed during their pregnancy, 57 per cent had stopped working by the fourth month. The remaining 43 per cent continued to work, and sought care later, in the second and final trimesters. Gravidae leaving their occupations early

in the pregnancy, tended to seek care earlier. The occupation of the gravida's husband and his employment status is given in Table 6. Agriculture workers comprise the largest single occupational group. Almost 65 per cent of the husbands were unemployed.

The clinic status of the patients is shown in Table 7. The data show that 29 per cent of the gravidae were recipients of welfare assistance. None of this group sought care during the first trimester. Similarly, the six per cent of patients in clinic status 2, did not initiate care until the second or third trimester. Gravida of clinic status 1 and LH comprised 65 per cent of the study population, and sought care in each trimester period of pregnancy. Thus, the welfare and medically indigent patients had a tendency to seek care in the second and final trimesters, while many patients in clinic status 1 and LH, those classified financially as unemployed, from large families, or receiving some temporary form of insurance, sought care early in pregnancy.

The educational level of the members of the study population may be seen in Tables 8 and 9. The gravidae averaged 10.87 years of formal schooling. Approximately 74 per cent of the study group had not completed high school. The level of educational attainment for the study population was relatively homogenous. The average level



of formal education completed for each trimester interval was 9.6, 10.31, and 9.9 respectively. By the end of the first trimester, 25 per cent of the mothers with nine to eleven years of education had sought prenatal care, whereas only 14 per cent of the mothers with eight years of schooling or less had done so. It should be noted that no patients in the upper two educational groups, "completed high school," or "some college," had sought care during the first trimester. By the end of the fifth month of pregnancy, 43 per cent of the patients with less than eight grades of education initiated care in comparison to 56 per cent who had received some high school education. None of the gravidae in the upper two educational groups sought care prior to the first trimester of pregnancy and 25 per cent of this group delayed care until the ninth month of pregnancy.

Table 10 presents a frequency distribution of the gravida's reasons for not completing high school. The patients who had not completed high school were asked, "How did it happen that you didn't go on?" Forty-three per cent specified marriage as a major reason; 8 per cent pregnancy; 14 per cent went to work; 30 per cent were "tired of school," and 21 per cent indicated other reasons for leaving school. The latter category included such items as health of self or family, poor relationships at home, and loss of school credits due to mobility.

As shown in Table 11, 25 per cent of the gravidas had completed high school or more, whereas only 17 per cent of their spouses had done so. Thirty-three per cent of the husbands had less than eight grades of formal schooling while in comparison 22 per cent of the gravida had this amount of education. A comparison of the mean educational attainment of the gravida and her spouse reveals that the years of formal schooling were fairly similar, but the gravidae tended to have a slightly higher level in each of the trimester intervals (Table 12).

As shown in Table 13 the mean age of women initiating prenatal care in each trimester period of pregnancy was computed. The comparable averages were 19.41, 20.75, and 22.80, in the first, second, and final trimester of pregnancy respectively. It should be noted that there is a linear trend between the gravida's age and the trimester of initiating care. The older patients tend to seek care later during pregnancy. Table 14 presents a separate analysis of birth rank by age of mother. The mean age of mothers by birth order are 19.83, 20.38, 21.56, and 23.4 for gravida one through four respectively.

#### Concept of Time

A second aspect of the study was concerned with the gravida's concept of time in relation to her pregnancy, and how this factor of time was related to when she sought prenatal supervision.

In response to the question, "Did you want to have a baby at this time?" 42 per cent indicated that the present pregnancy was planned. Also recorded were comments voluntarily given by the gravida to explain her views regarding the timing of pregnancy. Of the group of women who stated that the pregnancy was unplanned, 37 per cent indicated that they would have preferred to wait a longer period of time before becoming pregnant, and 16 per cent indicated they would have preferred to wait because of present financial difficulties. There was a slight tendency for families to plan for their first baby, but to be lax in planning in advance for pregnancies other than their first (Table 15). The proportion of unplanned pregnancies were about the same in trimesters one and two, 60 per cent; and 69 per cent respectively, but were somewhat less in the third trimester, 40 per cent (Table 16). In planning for pregnancy by age groups, it was found that the gravidae from 15 to 19 years of age had the highest percentage of unplanned pregnancies, 75 per cent, and as the age increased, the number of unplanned pregnancies decreased proportionally (Table 17). In general, the majority of expectant mothers with unplanned pregnancies accepted their pregnancy. Two representative quotations illustrate this viewpoint:

"Financially no, but otherwise it doesn't bother me---we want a large family."

"Not at this time. I wanted them further apart but I'm pretty happy about it now."

The gestation age of pregnancy, calculated on the basis of lunar months, was obtained from each patient's chart, and this was compared with the gravida's own estimate of how long she thought she had been pregnant. The pregnant women indicated the age of their pregnancy in calendar months, and this data was converted into lunar months for the purpose of comparison. In response to the question, "How far along do you think you are in your pregnancy?" most of the gravidae estimated their age of pregnancy several weeks earlier than the clinic physician (Table 18).

The majority of pregnant women were relatively accurate in estimating their expected date of confinement, in comparison to the physician's estimate of the same date. Nearly half the gravidae estimated their expected date of confinement within one week of the physician's estimate. Thirteen per cent indicated that they did not know or had no idea of when they were expecting the baby (Table 19).

Data obtained on the gravida's method of estimating her time of confinement, indicated that slightly less than 20 per cent utilized the "scientific" method of counting back three calendar months from the first day of the last menstrual period and adding seven days. Most of the gravidae in this category stated that they had obtained this information from a book. The highest proportion, 61 per cent

specified that they counted nine months from the time of the first missed menstrual period. There were minor modifications in the way some of the gravidae counted the nine months.

Table 20, shows that 39 per cent of the patients believed that the frequency of visits to the physician during pregnancy should be once a month and every two weeks "towards the end of the pregnancy." This is relatively consistent with the minimum standards of prenatal care supported by medical authority. Approximately 25 per cent felt that visits during pregnancy were indicated once a month, and about 19 per cent indicated that the visits should be regulated according to the physician's judgement. In this group, 16 per cent of the patients were multigravidae.

A small number of multiparas believed that pregnancy could be diagnosed by the physician at less than one month duration. Sixteen per cent of the study group had no idea of when the pregnancy could be diagnosed by a physician. Slightly over 35 per cent of the gravidae thought that the diagnosis of pregnancy could be made between the first and second months, and 33 per cent thought that it could be first made at three to four months. Sixty-two per cent of the patients seeking care in the second trimester believed that the pregnancy might be diagnosed by the physician after the third month. Perhaps, the time when the gravida initiates care is related to her concept of when the

physician is able to diagnose the pregnancy. The percentage distribution of the patients' concept of when a physician was able to diagnose a pregnancy is presented in Table 21.

In response to the question, "When in pregnancy do you think women ought to go to the doctor for the first time?" the majority of gravidae indicated that pregnant women should consult a physician by the end of the third month of pregnancy. Considering those gravidae who believed that prenatal care should be sought after the third month of pregnancy, those with the lowest and highest levels of education were similar (14 per cent), whereas, those with partial high school education had twice the percentage obtained in the other groups (Table 22).

As shown in Table 23, a separate analysis of the same question by trimester intervals at which prenatal care was first sought in the clinic showed that the group seeking care in the first trimester believed that they should do so. Seventy-three per cent of those in the second trimester and 70 per cent of those in the third trimester believed that pregnant women should seek care by the end of the third month of pregnancy.

The reasons given as to why pregnant women did not seek prenatal care according to their verbalized standards were: negligence ("put off"), thought care was not necessary, not aware of their pregnancy, and fear of the doctor or the examination.

### Concept of Prenatal Care

A third aspect of this study dealt with the gravidae's beliefs and expectations toward prenatal care.

Data concerning what the gravidae considered to be the rationale for prenatal care indicated that nearly 85 per cent recognized the preventive value of prenatal care (Table 24). The gravidae's concepts of prevention as applied to prenatal care were incomplete and for the most part were associated with ascertaining that the pregnancy was progressing satisfactorily and without complications. They were not concerned with knowing how to avert certain complications; they just wanted reassurance that they were free of the complications. The following quotation is representative of most gravidae's point of view: "They should go to make sure that everything is coming along all right and to make sure that there are no complications or problems." A few gravida mentioned specific complications to be avoid. For example: "To keep from getting infection."

A small number of gravidae in each trimester indicated their rationale for prenatal care was viewed as diagnostic. Several patients viewed prenatal care as therapeutic, initiating the process of having a baby, i.e., to obtain a bed for delivery, and for information and counseling. Several representative quotations illustrates the gravida's concepts:

"To find out if the're pregnant---I guess. To take care of 'em, to give 'em medicine--- That's what I come for---to stop my throwing up."

In contrast to the above primipara's verbalized rationale for prenatal care, a multipara reported that,

"I know I should go (to the doctor) when I first find out I'm pregnant, but I haven't gone with all my three until I was six months along,---and to me, as long as I feel movement I feel pretty safe. I know doctors prefer that you come when you figure you're pregnant and rather you come in for the nine months."

In comparing the primiparas with the multiparas, it was found that 67 per cent of the primiparas indicated the rationale for prenatal care was preventive, 17 per cent for therapy and 50 per cent for diagnosis, whereas 88 per cent of the multiparas indicated prenatal care was preventive, 4 per cent therapeutic and 8 per cent for diagnostic. It should be noted that not one of the primiparas indicated health education in her concepts and only two of the multiparas in the study population indicated the concept of information and counseling (Table 25).

Table 26 shows the responses to the question, "Why do women fail to have prenatal care?" It was apparent that many gravidae were projecting their own reasons into the responses. The response given most often was "fear of the doctor and of the examination." A comparison of multigravidae and primigravidae, Table 27, indicated that twice as many primiparas feared the examination and the physician. The same proportion of primiparas and



multiparas indicated economics as a factor to prevent seeking prenatal care. Thirty-two per cent of the multiparas indicated indifference toward care, while only 16 per cent of the primiparas gave the same reasons. A multipara stated that some women fail to go to the doctor when they are pregnant because "They're scared, especially if its their first one and sometimes they think they can't afford it---The doctor costs too much. They don't know what the doctors going to do to them, and scared of what he'll say if they gain too much weight."

Two quotations from interviews show that many of the gravidae were projecting their own reasons into the responses.

"Fear of money---expense. The fear of what happens when you get up here---blood tests, exam---I'm scared of needles and doctors. I've never found a doctor I've had confidence in."

"Fright. Nervousness. Family. I went to this one doctor and he didn't take no time and ran right through it and didn't tell me anything, and he scared me."

Table 28 indicates that slightly less than half the patients had no conception of the nurses' role in the prenatal clinic. Only one gravida indicated that she expected the nurse to answer her questions regarding pregnancy. The remainder of the group had expectations centering around the nurse assisting the physician with the examination. Typical responses from the patients

were: "They help you check your weight and get undressed, and help you get ready for the doctor." Another gravida indicated that, "About all they've ever done is put me in a room and tell me to undress and wait for the doctor."

In answer to the question, "What do you expect the doctor to do for you?" all the gravidae, except one, expected to be examined by the physician. The majority reported that they expected the physician to reassure them that their pregnancy was progressing satisfactorily. Representative quotations illustrating this pattern follows:

"I imagine if there's anything wrong he can give me some medicine. Probably tell me when the baby's coming---that's mostly what I want to know--if I still got the infection and when its due."

"Just to check up---to see if I'm OK, and the baby's OK."

"I expect him to check me over and tell me everythings fine, and tell you to take some pills and not gain so much weight and come back on a certain day."

A small number of gravidae had expectations centering on therapy for specific symptoms. A 16 year old primipara, seeking prenatal care in the first trimester indicated that her expectation of the physician was to:

"Help me from getting sick (morning sickness) and help me have the baby---I guess."

A small minority of the gravidae, 13 per cent indicated that they expected the physician to provide health information (Table 29). A primipara reported that she expected the physician to:

"Reassure me that everything is going all right. Follow baby's growth, and tell me how to care for myself. I suppose you have some instincts on how to care for yourself, but there are some things they have to tell you."

In response to the question, "What do you think would happen if you didn't see a doctor during pregnancy?" Table 30 indicates that 70 per cent of the gravidae reported they feared complications would result to themselves or to the fetus. Of the specific complications reported, miscarriage was reported most often, and, infection, prematurity, and "cord around the neck," were reported in equal proportions. Approximately 20 per cent of the gravidae expressed no fear of the consequences of lack of care if she were in good health and there were no abnormalities. The following quotations illustrate each viewpoint.

"Well, there's no telling. I myself think I'm all right and feel all right, but I don't know about the baby. I'm not sure about waiting until the last minute if you went in to have the baby and something was wrong. I don't think there's much that could be done."

"Something could go wrong with me, or I could have a thing seven months pregnant and not realize it. It would be kind of stupid to wait."

"I don't think anything in particular would happen unless you're in bad health to begin with, but of course you never can tell if the cord is going to get wrapped around the baby or you're going to have a miscarriage."

While the majority of gravidae expressed some concern regarding the possibility of complications developing, one gravida reported she expected "nothing" to happen if she did not see a physician during the course of her pregnancy. The following is a quotation from the interview:

"Nothing much because women never went to see doctors years ago. Eve got pregnant and she didn't have a doctor then."

#### Process of Initiating Prenatal Care

The final aspect of this study is concerned with the process of seeking prenatal care. Table 31 shows that ceasation of menstruation was the most common observation used in self validation of pregnancy. In comparing multiparas with primiparas, the former reported ceasation of menstruation as the means of validating their own pregnancy whereas, the latter reported observation of ceasation of menstruation and breast changes in similar proportions as a means of self evaluation of pregnancy. Twelve per cent of the multiparas reported quickening as an observation to validate their pregnancy.

All the primigravidae, with the exception of one, who was divorced and had an illegitimate pregnancy, sought advice in validating their pregnancy. The majority of primiparas sought advice from their mother.

Table 32 shows that 80 per cent of the gravidae seeking care in the first trimester indicated there was no

delay in their seeking care following their decision of need for prenatal supervision. One patient reported delaying for one month. Twenty-five per cent of the gravidae initiating care in the second trimester and 40 per cent of the gravidae in the third trimester indicated a delay of less than two weeks following their decision of need for seeking medical supervision. Twelve per cent of the gravidae sought care in the second trimester; and 30 per cent of those seeking care in the third trimester, delayed their initial visit to the doctor for four or more months.

The majority of gravidae in each trimester had discussed initiating care prior to their initial clinic appointment. The husbands and mother of the gravidae in the first trimester were of equal importance in providing support for seeking care. Patients reporting for care in the second trimester indicated their husband was the one who supported them. A variety of persons were involved in providing support for the gravidae seeking care in the final trimester.

The major reasons for delay following the decision of need for seeking prenatal care for those in the second and third trimesters were economic, aversion to the examination, and negligence. The following quotations from interviews with gravidae seeking care in the second and third trimesters illustrate these points:

"I decided as soon as I found out I was pregnant (quickenings), but I kept putting it off--one of them was bill problems. My husband kept insisting I make an appointment."

"About two weeks ago--I wanted to check if it was due August first or September first, or I wouldn't have come at all. I'm scared of the needles and stuff. After the first visit its all right--but it throws me. My neighbors thought it was best I go--they said if I didn't go, they'd call."

The major reasons the gravidae in the first trimester sought care were the result of family pressures and for therapy. In the second trimester, those gravidae with symptoms were more likely to appear for a "check up" without expecting the symptoms to be alleviated. In the third trimester, group pressure and to a lesser extent, symptoms associated with pregnancy again come into play as a factor in seeking prenatal care. The association between the gravida's symptoms and the initiation of prenatal care illustrate these points for each trimester interval of pregnancy respectively:

"Last week, because of throwing up. My Mom told me I'd better. She thought I could get some pills so I could go back to work."

"About a month ago. I was feeling pretty tired and I thought I should come to make sure that everything was OK. I had talked with my husband about going to the clinic or the family doctor. Since we thought I was pregnant we talked about it. We never got around to going to the doctor."

"I decided a long time ago I should go, but as long as I'm feeling good and there isn't anything in particular bothering me I feel I don't have to go. If I were feeling good, I would wait until my pains started, if I thought I could get by with it, but I know I need certain pills and

a certain amount of medical care so the baby will be born healthy. My husband was after me to go ever since I told him I was first pregnant."

In response to the question, "How did you come to make the decision about going to the doctor?" all gravidae initiating prenatal care in the first trimester indicated that family pressures were great in influencing them to seek care. In addition, 80 per cent of this group reported that they felt ill or had symptoms usually associated with pregnancy and that the desire to alleviate these symptoms influenced their decision to seek care. The importance of group pressures and the alleviation of the early symptoms associated with pregnancy decreased in importance, as factors in initiating care for gravidae in the second and third trimesters of pregnancy (Table 33). In the third trimester, the process of formalizing prenatal care for delivery and a felt need for a medical check-up were the primary factors for seeing a doctor.

Table 34 shows that of those patients reporting for care in the first trimester, the gravida's mother was the primary source of support (75 per cent) in the process of initiating care. In the second trimester, the husband was given most often as the individual who encouraged his spouse to seek care; the mother ranked second in this group. Approximately half the gravidas in the first and second trimesters indicated various symptoms associated

with pregnancy. These ranged from nausea and vomiting to dizziness and ankle edema. These symptoms were a factor for another member of the family to encourage the gravida to seek care. In the third trimester, peers exerted the most influence in encouraging the individual to seek care. Only three patients in the study group were referred to the clinic by social workers or public health nurses. A gravida initiating care at 29 weeks gestation reported:

"They (husband, mother and mother-in-law) thought I should come. They wanted me to come earlier--when I was about five months. I thought I didn't need to come then. I thought I'd wait until I was seven months and then come. I don't think a woman should go to the doctor if they're all right up to then. If I had trouble I would come earlier. They thought I could have some trouble that we might not know about--but I'm real healthy. I even picked a few beans."

One 17 year old, gravida iii, para ii, stated that "My husband doesn't like the idea of me seeing the doctor. He is sort of jealous--he doesn't like the examinations they give. It embarasses me a little--it makes me feel funny." None of the other gravidae had anyone object to their seeing the obstetrician during pregnancy.

Table 35 shows that 55 per cent of the study population reported that they delayed their visit to the physician. When the sample was broken into trimester intervals when care was initiated, no one (zero per cent) in the first trimester delayed her visit to the physician,



69 per cent in the second trimester and 60 per cent in the third trimester delayed their visit to the physician.

The major reasons for delaying care were "fear of the doctor," (41 per cent) and economics (29 per cent). The remainder of gravidae indicated they delayed because they thought prenatal care was unimportant or had inadequate information regarding the clinic (Table 36).

Table 37 shows that 81 per cent of the gravidae expected that the University of Oregon Medical School Prenatal Clinic would be their source of prenatal care, whereas, less than 20 per cent had hopes of going to a private physician. This proportion was consistent for gravidae initiating care in all trimester intervals. The majority of gravidae seeking care in the second and third trimesters had considered making the clinic appointment prior to the one obtained at the time of initial registration.

Table 38 shows that the major reason the gravidae sought care in the first trimester was to alleviate symptoms, whereas the majority of patients who reported to the clinic in the second and final trimesters came for an examination. Several gravidae in this group expected to have certain symptoms associated with pregnancy but did not expect the doctor to be able to alleviate these discomforts. It should be noted that 40 per cent of the gravidae reporting to the clinic during their third trimester of pregnancy did so in order to obtain a bed for delivery. A quotation

illustrates this point of view:

"I wanted to get situated around, I mean to have the baby here--get my record here to have the baby."

In comparing primigravidae with multigravidae, Table 39 shows that 50 per cent of the former visited the physician primarily for preventive care, 33 per cent for therapy, and 33 per cent for diagnosis, whereas, 72 per cent of the latter visited the physician for preventive care, 13 per cent for therapy, and 13 per cent for diagnosis, and 24 per cent to initiate the process of having a baby or formalizing the prenatal records.

About one third of the study population had symptoms associated with their pregnancy. Three fourths of those gravidae seeking care in the first trimester reported they would not have come to the clinic as early as they did if it were not for their symptoms.

Of the 40 per cent of the gravidae who stated that they had received information and advice concerning pregnancy and labor, half obtained their information with a previous pregnancy. Peers and mothers were the highest distributors of information. Although mothers provided advice, the multiparas placed little value on their mother's prescriptions. This is illustrated by the following quotation from an interview;

"I received that (advice and information) everywhere--from everybody, but I don't listen to them. I do what I think is right. My Mother and Mother-in-Law give advice opposite to the doctor. They always think the opposite. Both say 'don't let the doctor tell you when its going to come--nature'll tell it when.' My Mother-in-Law is old fashion--she thinks I should listen to her advice, but it's something I don't do it."

Half the primigravidae in the study population reported they had not received any information or advice concerning pregnancy or labor.

CHAPTER IV  
SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS  
FOR FURTHER STUDY

Summary

This study presents a description of the beliefs and expectations of 31 pregnant women concerning prenatal care. The study was conducted in the Prenatal Clinic of the Outpatient Department of the University of Oregon Medical School during the summer of 1962. The findings are based on responses obtained by interviews with 31, native-born White gravidae who were or had been married, and were reporting for their initial visit to the Prenatal Clinic. One aspect of the research design was that the pregnant women interviewed had not previously seen a physician during the course of their present pregnancy.

The interview schedule consisted of open-ended questions relating to the gravida's socioeconomic attributes, her process of initiating prenatal care, her concept of this care, and her views of time in relation to the pregnancy. The non-quantified data were utilized in general content analysis to identify the beliefs and expectations of each gravidae towards prenatal care as a pattern of concepts to ascertain if her verbal statements

were similar to, or different from her behavior in initiating care. Indicators used to represent the gravida's pattern of concepts and rationale for prenatal care were: preventive, therapeutic, and social. These were evaluated in relation to the trimester of pregnancy in which prenatal care was initiated, and by parity.

Several problems were encountered which necessitated modifying the study design. First, the number of gravidae in the study population were reduced from 60 to 31 because the Child Development Study pre-empted approximately one third of the clinic patients. Second, the parameters originally defined had to be enlarged from primigravidae to include gravidae IV because of the small number of primiparas attending the clinic without previous care. Third, due to the small number of gravidae in the study population, a statistical analysis to test the hypothesis was inappropriate.

Information obtained on the social characteristics of gravidae indicated that one third of the study population were recipients of welfare assistance; 87 per cent were married and living with their spouse. Of the four gravidae who had broken marriages, three had illegitimate pregnancies. The average age of the study population was 21 years. The average educational level was 10.87 years of formal schooling. Nineteen per cent were primigravidae

and 81 per cent were multigravidae. Their parity ranged from one to four. Sixteen per cent of the study population sought care in the first trimester, over half the gravidae sought care in the second trimester, and 32 per cent delayed until the final trimester.

#### Conclusions

The following conclusions were derived from data based on the social characteristics of gravidae and the trimester of pregnancy at onset of prenatal care:

1. The welfare and medically indigent gravidae, clinic status 3X and 2, sought care in the second and final trimesters, while many patients classified financially as unemployed, from large families or receiving some temporary form of insurance, clinic status 1, sought care in all trimester periods.
2. Primiparas tended to seek care earlier than the multiparas.
3. Although the level of educational attainment of the study population was relatively homogenous, the gravidae who had not completed their high school education initiated care earlier than those who had completed high school. None of the gravidae who had completed high school or more sought care in the first trimester and

25 per cent of this educational group delayed until the ninth month of pregnancy to initiate prenatal care.

The following conclusions concerning the gravida's concept of time in relation to her pregnancy and the initiation of prenatal care were derived from this study:

1. The gravida's estimate of her expected date of confinement in comparison to the physician's estimate was relatively accurate. The majority of the gravidae estimated the gestation age of their pregnancy on the basis of calendar months, which was several weeks earlier than the physician's calculation, which was based on lunar months.
2. Slightly over 30 per cent of the study population thought that pregnancy could first be diagnosed by the physician after the third month of gestation.
3. The majority of gravidae indicated that pregnant women should consult a physician by the end of the third month of pregnancy. Barriers which gravidae indicated may prevent pregnant women from seeking prenatal care in accordance with their verbalized standards were: fear of the physician and examination, don't think care is necessary, unaware of pregnancy and cost.
4. In a similar question concerned with why pregnant women fail to have prenatal care, fear of the

physician and the examination were given most often as factors to prevent seeking care. A comparison of primigravidae with multigravidae indicated that twice as many of the former feared the examination and the physician as did the latter.

The following conclusions concerning the gravida's beliefs and expectations toward prenatal care were derived from this study:

1. The preventive aspects of prenatal care were viewed by the gravidae in a limited fashion. The majority of gravidae viewed prenatal care essentially as a health service where they could be reassured that their pregnancy was progressing without complications, but only a small minority of patients focused on the health educational aspects of prenatal care. A small number of gravidae considered the rationale for prenatal care as diagnostic and as a formality to insure themselves a bed for delivery. In comparing primiparas with multiparas, it was found that the latter indicated the rationale for prenatal care was essentially preventive, whereas the primigravidae indicated that the rationale for prenatal care was preventive, diagnostic, and therapeutic. The gravidae's expectations



concerning the physician's role in prenatal care were viewed in a similar limited manner.

2. The gravida's concept of the nurses' role in the clinic was limited to those functions associated with assisting the physician in his examination. They had no expectations concerning the health teaching that nurses might be able to offer them.

The following conclusions concerning the process of initiating prenatal care were derived from this study:

1. The majority of gravidae indicated that they expected the prenatal clinic to be their source of care during the course of their present pregnancy. The major reasons reported for delay in seeking prenatal care for those in the second and final trimesters were: fear of the examination or physician, negligence, and economics. However, 25 per cent and 40 per cent of the gravidae seeking care in the second and third trimesters reported no delay in obtaining prenatal supervision. These patients, evidently had made a deliberate or conscious choice in obtaining care late in pregnancy.
2. One third of the study population had symptoms usually associated with pregnancy. Gravidae initiating prenatal care in the first trimester for the most part initiated care because of

symptoms associated with early pregnancy and because of their immediate families' concern and pressure to seek medical advice to alleviate these symptoms. Seventy-five per cent of the gravidae in this group indicated that they would not have come as early if it were not for these symptoms. Gravidae initiating care in the second trimester, although they had symptoms and were concerned about them in relation to the successful course of their pregnancy, did not expect the physician in the clinic to alleviate or provide information to prevent these discomforts. The importance of group pressures and the alleviation of symptoms decreased in importance for gravidae initiating care in the second and third trimesters. In the third trimester, the process of formalizing prenatal care for delivery and a felt need for a medical examination were the primary reasons for seeking prenatal care.

#### Discussion

Although the number of primigravidae in this study were small, 50 per cent sought care in the first trimester. During a first pregnancy most women are likely to have anxiety and fear of complications. Prenatal care initiated in the first trimester was the result of symptoms

usually associated with pregnancy and pressure by the gravida's family. These factors would motivate them to seek early care. Although the multigravidae were concerned with the possibility of complications developing, their increasing familiarity with the process of pregnancy resulted in a lack of urgency regarding the initiation of prenatal care.

The explanation of why gravidae who were classified as being from families where the spouse was unemployed, or who were receiving some form of temporary insurance (clinic status 1) had a tendency to seek care earlier than those who were on welfare and medically indigent (clinic status 3X and 2). It might be that this group had a higher economic standing and it has been demonstrated in many studies that as the family income rises those seeing a physician early in pregnancy increases.

Most studies have shown that as the educational level rises there is an increase in the use of early prenatal care. However, the findings of this study indicate that those gravidae who had not completed high school sought prenatal care earlier than those who had not completed high school. This could be the result of the nature of the sample.

Approximately half the gravidae had no idea as to when the pregnancy could be diagnosed by a physician or

thought that it could be diagnosed after the third month of gestation. It is interesting to speculate that the gravida might initiate care when she thinks the physician is able to diagnose her pregnancy.

Although 77 per cent of the gravidae indicated that a pregnant woman should consult a physician by the end of the third month of pregnancy, only 16 per cent did so. This indicates that a considerable discrepancy exists between the gravida's verbalized standards and her behavioral practice in seeking prenatal care. The majority of gravidae were aware of the principle that they should seek early care, but for various reasons they failed to do so. An important step has been accomplished when gravidae accept the necessity for prenatal supervision, although it may be late in their pregnancy.

In view of the inconsistency between the gravida's verbalized statements and her behavioral practices in seeking early prenatal care, this discrepancy may be approached from two points of view which are not contradictory. First, the results suggest that these beliefs regarding early prenatal care may be held with such indifference that one would not expect much individual effort to obtain early prenatal care. Second, the results suggest that barriers may prevent gravidae from seeking early care. The factor of fear was a deterrant to effective prenatal care. Fear of the physician and the initial medical examination were

verbalized most frequently by the gravidae as reasons for delaying care. The significance of social distance, different value systems, and expectations between patients of low socioeconomic status and physicians have been documented in other studies as factors limiting the utilization of medical care. In addition, the impersonal relationships and the lack of continuity of care in the clinic because of the rotation of medical personnel, and the invasion of the gravida's privacy due to the nature of the physical examination are also important factors which contribute to the patient's fear. The distance of the clinic for gravidae residing in rural areas of the state, and the cost of the clinic services were also factors in delaying care for some gravidae.

The gravidae viewed the nurse's role in the prenatal clinic essentially as a "doctor's assistant." They expected to develop a superficial relationship with the nurse and failed to view her as a potential source of help. In view of the fact that many gravidae are unlikely to be reached by health educational material, the nurses could fulfill an important role in health teaching.

#### Recommendations for Further Study

The following recommendations are presented for further study:

1. In order to investigate more fully the process of initiating prenatal care, this study could be replicated using a random sampling design with a larger sample so statistical analysis would be appropriate. The target population could consist of various ethnic and economic groups.
2. It is suggested that effective ways be found of adopting health education measures to the needs and attitudes of pregnant women in the lower socio-economic group so they can be helped to understand the importance of early registration and other health measures.
3. An interesting problem area that might be explored is concerned with the question of how patients evaluate the importance of symptoms as this relates to seeking prenatal care. Are the symptoms associated with toxemia of pregnancy recognized or considered important?
4. Investigate the reasons why patients fear the physician.
5. Investigate the reasons why the gravidae fear the examination.

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APPENDIX A

Table 1. Trimester of Initiation of Prenatal Care by Parity of Mother

Parity	First Trimester		Second Trimester		Third Trimester		Total	
	N	%	N	%	N	%	N	%
Primiparas .....	3	50	1	17	2	33	6	100
Multiparas .....								
Two	1	4	4	20	2	8	8	32
Three	1	4	7	28	4	16	12	48
Four			3	12	2	8	5	20
All Multiparas.....	2	8	15	60	8	32	25	100
Total.....	5	16	16	52	10	32	31	100

Table 2. Month at Which Prenatal Care was First Sought  
in Obstetrical Clinic by Parity

Cumulative Per Cent of Women Who First Sought Care When Pregnant by Period Given					
Parity	N.	Under 3 Months	Under 5 Months	Under 9 Months	Per Cent of Women With No Care Until 9th Month
All Cases	31	16	52	94	6
Primiparas	6	50	67	100	0
Multiparas	25	8	44	92	8

Table 3. Trimester of Initiation of Prenatal Care by Marital Status of Mother

Marital Status	First Trimester		Second Trimester		Third Trimester		Total	
	N	%	N	%	N	%	N	%
Married and Living with Husband .....	4	13	13	42	10	32	27	87
Separated .....	0	0	2 <sup>a/</sup>	6	0	0	2	6.45
Divorced .....	1 <sup>a/</sup>	3	1 <sup>a/</sup>	3	0	0	2	6.45
Total .....	5	16	16	52	10	32	31	99.90

<sup>a/</sup>Illegitimate Pregnancy

Total illegitimate pregnancies: 3, 10 per cent

Table 4. Trimester of Initiation of Prenatal Care by employment Status of Mother at the Time She Became Pregnant

Trimester	Not Working		Working		Total	
	N	%	N	%	N	%
First.....	3	10	2	6	5	16
Second.....	14	46	2	6	16	52
Third.....	7	22	3	10	10	32
Total.....	24	78	7	22	31	100

Table 5. Month in Pregnancy Mother Stopped Working by  
Trimester of Initiation of Prenatal Care

N: 7

Month Mother Stopped Working	First Trimester		Second Trimester		Third Trimester		Total	
	N	%	N	%	N	%	N	%
Under 2 Months.....	2	29	0	0	0	0	2	29
3 Months.....	0	0	0	0	1	14	1	14
4 Months.....	0	0	1	14	0	0	1	14
Continues to Work..	0	0	1	14	2	29	3	43
Total.....	2	29	2	28	3	43	7	100



Table 6. Occupation of Husband and Employment Status

N:28

Husband's Occupation	Employment Status				Total	
	Employed		Unemployed		N	%
	N	%	N	%		
Agriculture.....	4	16	6	21	10	36
Farm Laborer	3		5		8	
Nursery Laborer	1				1	
Poultry Hanger			1		1	
Service .....	3	10	4	14	7	25
Service Station						
Attendant	1					
Garbage Man	1					
Ambulance Driver	1					
Janitor			1			
Cook			1			
Dishwasher			1			
Fence Erector			1			
Profession or Trade.....	2	7			2	7
Barber's Apprentice	1					
Minister	1					
Manufacturing.....	1	3	5	18	6	21
Laborer, Construction			4			
Upholsterer			1			
Hardwood Floor Layer			1			
Other.....			3	11	3	11
Unskilled Laborer			3	11	3	11
Total.....	10	36	18	64	28	100

Table 7. Trimester of Initiation of Prenatal Care by  
Clinic Status of Mother (Financial Classification)

Clinic Status	First Trimester		Second Trimester		Third Trimester		Total	
	N	%	N	%	N	%	N	%
3X, Welfare Recipients .....	0	0	7	23	2	6	9	29
2, Medically Indigent .....	0	0	2	6	0	0	2	6
Partial Insurance or Compensation,								
I .....	4	13	7	23	6	19	17	55
1H (fee deferred)	1	3	0	0	2	6	3	10
Total .....	5	16	16	52	10	32	31	100

Table 8. Trimester of Initiation of Prenatal Care  
by Education of Gravida

Grade Completed	First Trimester		Second Trimester		Third Trimester		Total		All Cases
	N	%	N	%	N	%	N	%	%
8th Grade or Less .....	1	14	3	43	3	43	7	100	23
Some High School 9th to 11th Grade .....	4	25	8	50	4	25	16	100	51
Completed High School.....		0	4	57	3	43	7	100	23
Some College.....	0	0	1	100	0	0	1	100	3
Mean Level of Education Completed .....	9.6		10.31		9.9				10.87

Table 9. Month of Pregnancy at Which Clinic Physician  
Was First Seen by Education of Mother

Grade Completed	Cumulative Per Cent			
	Under 3 Months	Under 6 Months	Under 9 Months	9 Months
Eight Grade or Less....	14	43	100	0
9-11 Grade.....	25	56	100	0
12th Grade or Higher...	0	37	75	25

Table 10. Major Reasons for Gravidas Not Completing High School

	N	%
Completed High School .....	8	25
Major Reasons for Leaving School		
Marriage .....	10 <sup>a/</sup>	43
Employment .....	3	14
Pregnant .....	2	8
Lack of Interest and Motivation	7 <sup>b/</sup>	29
Other .....	5	21
Unable to Get Along at Home	1	
Fell Behind in Classwork Due to Moving	2	
Medical	2	
Total .....	23	

Marriage: <sup>a/</sup>Mean Age: 16.2, Mean Education, 9.6

<sup>b/</sup>Lack of Interest and Motivation, Mean Age, 15.5,  
Mean Education, 8.5

Note: Per cent adds up to more than 100 because respondents gave more than one answer.

Table 11. Comparison of Educational Attainment Between Gravida and Spouse by Grade Completed

	Less than 8th Grade		9-12 Grades		Completed High School		Some College		Total	
	N	%	N	%	N	%	N	%	N	%
Gravida...	7	22.4	16	52	7	22.4	1	3.2	31	100
Spouse.....	10	33	15	50	3	10	2	7	30	100

Table 12. Comparison of Mean Educational Attainment  
Between Gravida and Spouse According to  
Trimester of Initiation of Prenatal Care

Mean Grade Completed				
	First Trimester	Second Trimester	Third Trimester	All Cases
Gravida.....	9.6	10.31	9.9	10.87
Spouse.....	8.75	9.96	9.8	9.6

Table 13. Trimester of Initiation of Prenatal Care  
by Age of Mother

Age of Mother	First Trimester		Second Trimester		Third Trimester		Total All Cases	
	N	%	N	%	N	%	N	%
15-19 Years.....	4	80	6	38	3	30	13	42
20-24 Years.....	1	20	8	50	4	40	13	42
25-29 Years.....	0	0	2	12	3	30	5	16
Total .....	5	100	16	100	10	100	31	100
Mean Age .....	19.41		20.75		22.80		21.19	



Table 14. Comparison of Birth Rank by Age of Mother

Parity	Age of Mother								Mean Age
	15-19 Years		20-24 Years		25-29 Years		Total		
	N	%	N	%	N	%	N	%	
Primiparas.....	4	13	1	3.2	1	3.2	6	19.4	19.83
Multiparas									
Two	4	13	4	13	0	0	8	26	20.36
Three	4	13	6	20	2	6	12	39	21.56
Four	0	0	3	10	2	6	5	16	23.4
All Multi-Paras .....	8	26	13	43	4	12	25	81	21.52
Total .....	12	39	14	46	5	15	31	100	

Table 15. Planning for Pregnancy by Parity of Gravidae

Parity	Pregnancy Planned		Pregnancy Unplanned		Total	
	N	%	N	%	N	%
Primiparas .....	3	50	3	50	6	100
Multiparas .....	10	40	15	60	25	100
Total .....	13	42	18	58	31	100

Table 16. Planning for Pregnancy by Trimester of  
Initiation of Prenatal care

Planning	First Trimester		Second Trimester		Third Trimester		Total	
	N	%	N	%	N	%	N	%
Pregnancy Planned.....	2	40	5	31	6	60	13	42
Pregnancy Unplanned..	3	60	11	69	4	40	18	58
Total .....	5	100	16	100	10	100	31	100

Table 17. Planning for Pregnancy by Age of Gravidae

Planning	15-19 Years		20-24 Years		25-30 Years		Total All Cases	
	N	%	N	%	N	%	N	%
Pregnancy Planned.....	3	25	7	46	3	75	13	42
Pregnancy Unplanned..	9	75	8	54	1	25	18	58
Total .....	12	100	15	100	4	100	31	100

Table 18. Difference Between Physician's and Patient's Estimate of Gestation Age of Pregnancy

Gravida's Estimate <sup>a/</sup>	Total	
	N	%
4 Weeks Less than Physician's Estimate .....	4	13
3 Weeks Less than Physician's Estimate .....	10	32
2 Weeks Less than Physician's Estimate .....	6	20
1 Week Less than Physician's Estimate .....	5	16
Same as Physician .....	1	3
1 Week More than Physician's Estimate .....	1	3
2 Weeks More than Physician's Estimate .....	0	0
3 Weeks More than Physician's Estimate .....	0	0
4 Weeks More than Physician's Estimate .....	1	3
Don't Know .....	3	10
Total .....	31	100

<sup>a/</sup> Calculated on the basis on lunar months or 40 weeks gestation.

Table 19. Comparison of Expected Date of Confinement  
Estimated by Clinic Physician and by Mother

Difference Between Mothers and Physicians' Estimate of Expected Date of Confinement	Primiparas		Multiparas		Total	
	N	%	N	%	N	%
Within 2 Weeks or Less of M.D. ....	2	33.3	14	56	16	52
3-4 Weeks .....	0	00	3	12	3	10
More than 3 Months .....	0	00	1	4	1	3
Indicated Correct Calen- dar Month, but no Date ...	2	33.3	5	20	7	22
Don't Know .....	2	33.3	2	8	4	13
Total .....	6	99.9	25	100	31	100

Table 20. Patients' Concepts Concerning Frequency of Visits to Physician During Pregnancy by Parity of Mother

Frequency of Visits to M.D. During Pregnancy	Parity of Clinic Primigravidae		Patient Multigravidae		Total	
	N	%	N	%	N	%
Once a Month .....	1	17	7	28	8	26
Once a Month and Every 2 Weeks After Approxi- mately 7-8th Month .....	1	17	11	44	12	39
Dependent on M.D.'s Judgment .....	0	0	5	20	5	16
Other .....	4	66	2	8	6	19
Total .....	6	100	25	100	31	100

Table 21. Patients' Concept of When a Physician Is  
Able to Diagnose a Pregnancy

Trimester Gravidae Initiated Care								
Age of Pregnancy at Time of Diag- nosis by Physician	First Trimester		Second Trimester		Third Trimester		Total	
	N	%	N	%	N	%	N	%
Under 1 Month .....	1	20	1	7	0	0	2	6
1-2 Months .....	1	20	0	0	1	10	2	6
2 Months .....	1	20	5	31	3	30	9	30
2-3 Months .....	0	0	1	7	2	20	3	10
3 Months .....	0	0	3	19	2	20	5	16
3-4 Months .....	0	0	2	12	0	0	2	6
Don't Know .....	2	40	2	12	1	10	5	16
Other .....	0	0	2	12	1	10	3	10
Total .....	5	100	16	100	10	100	31	100



Table 22. Verbalized Standards in Initiating Prenatal Care by Education of Mother

Gravidas' Verbalized Standards of Initiating Prenatal Care	Less Than 8 Grades		9-11 Grades		12th Grade or Greater		Total	
	N	%	N	%	N	%	N	%
First Aware of Pregnancy .....	4	57	4	25	3	43	11	37
2-3 Months .....	0	0	4	25	2	29	6	20
3 Months .....	2	29	3	19	<u>1a/</u> 14	14	6	20
3-4 Months .....	<u>1a/</u> 14	14	3	19	1	14	5	17
Other .....	0	0	2	12	0	0	2	6
"Want To"	0	0	1	0	0	0	1	3
"5 Months if Not Ill"	0	0	1	0	0	0	1	3
Total .....	7	100	16	100	7	100	30	100

a/ Visit physician if ill

Table 23. A Comparison of Verbalized Standards and Practice in Initiating Prenatal Care

Age of Pregnancy Gravida Believe Women Ought to Initiate Prenatal Care	First Trimester		Second Trimester		Third Trimester		Total	
	N	%	N	%	N	%	N	%
First Aware of Pregnancy .....	3	60	3	19	5	50	11	37
2-3 Months .....	1	20	4	27	1	10	6	20
3 Months .....	1	20	4	27	1	10	6	20
3-4 Months .....	0	0	4 <sup>a</sup>	27	1	10	5	17
Other .....	0	0	0	0	2	20	2	6
"When They Want To"	0	0	0	0	1	10	1	3
"5 Months, if Not Ill"	0	0	0	0	1	10	1	3
Total .....	5	100	15	100	10	100	30	100

<sup>a</sup>/Visit physician if not ill, 2 patients.

Table 24. Gravidas' Verbalized Rationale for Prenatal Care

Gravidas' Rationale for Prenatal Care	First Trimester		Second Trimester		Third Trimester		Total	
	N	%	N	%	N	%	N	%
Preventive .....	4	80	14	88	8	80	26	84
Therapy .....	1	20	1	6	0	0	2	6
Diagnosis .....	1	20	2	12	2	20	5	19
Obtain Bed for Delivery .....	0	0	0	0	2	20	2	6
Information .....	1	20	0	0	0	0	1	3
Emotional Support ...	0	0	1	6	0	0	1	3

Note: Per cent adds up to more than 100 because some respondents gave more than one answer.

Table 25. Gravidas' Verbalized Rationale for Prenatal Care by Parity

Gravidas' Rationale for Prenatal Care	Primiparas		Multiparas		Total	
	N	%	N	%	N	%
Preventive .....	4	67	22	88	26	84
Therapy .....	1	17	1	4	2	6
Diagnosis .....	3	50	2	8	5	19
Information .....	0	0	1	4	1	3
Emotional Support .....	0	0	1	4	1	3
Obtain Bed for Delivery ...	0	0	2	8	2	6

Note: Per cent adds up to more than 100 because some respondents gave more than one answer.

Table 26. Opinions Concerning Failure of Pregnant Women to Seek Prenatal Care

Response	First Trimester		Second Trimester		Third Trimester		Total	
	N	%	N	%	N	%	N	%
Economic .....	1	20	2	12	2	20	5	16
Fear of M.D. or Examination .....	2	40	5	31	5	50	12	39
Don't Think Necessary .....	2	40	4	25	3	30	9	29
Rejection of Pregnancy .....	0	0	2	12	1	10	3	10
Don't Know .....	1	20	5	31	0	0	6	19

Note: Per cent adds up to more than 100 because some respondents gave more than one answer.

Table 27. Opinions Concerning Failure of Pregnant Women to Seek Prenatal Care by Parity

Response	Primiparas		Multiparas		Total	
	N	%	N	%	N	%
Economic .....	1	16	4	25	5	16
Fear of M.D. and Examination..	4	67	8	32	12	39
Don't Think Necessary .....	1	16	8	32	9	29
Rejection of Pregnancy .....	1	16	2	8	3	10
Don't Know .....	1	16	5	20	6	19

Note: Per cent adds up to more than 100 because some respondents gave more than one answer.

Table 28. Patient's Expectations of Nurses' Role  
in the Prenatal Clinic by Parity

Patient's Expectation of Nurses' Role	Primiparas		Multiparas		Total	
	N	%	N	%	N	%
Assist Physician .....	2	33	12	50	14	47
Provide Physical Care .....	0	0	2	8	2	7
Provide Information and Support .....	0	0	3	13	3	10
"Nothing" .....	0	0	2	8	2	7
Don't Know .....	4	67	10	42	14	47

Note: Per cent adds up to more than 100 because some  
respondents gave more than one answer.

Table 29. Gravidas' Expectations of Physicians' Role in Prenatal Care

N: 30

Gravida's Expectations of Physicians' Role in Prenatal Care	First Trimester		Second Trimester		Third Trimester		Total	
	N	%	N	%	N	%	N	%
Examination .....	5	100	15	94	9	100	29	97
Reassure Gravida Pregnancy is Progress- ing Satisfactorily....	2	40	12	75	5	56	19	63
Therapy .....	1	20	3	19	1	11	5	16
Information .....	0	0	2	13	2	22	4	13
Other .....	1	20	3	19	2	22	6	20
Delivery	1	20	0	0	1	11	2	6
Diagnosis	0	0	1	6	0	0	1	3
Counseling	0	0	1	11	0	0	1	3
"Whatever M.D. Thinks"	0	0	1	6	1	11	2	6

Note: Per cent adds up to more than 100 because some respondents gave more than one answer.



Table 30. Gravida's Expectations Concerning Lack of Prenatal Care During Pregnancy

Response	First Trimester		Second Trimester		Third Trimester		Total	
	N	%	N	%	N	%	N	%
Don't Know .....	1	20	3	19	2	22	6	20
"Nothing" .....	1	20	0	0	0	0	1	3
Nothing, if Gravida is in Good Health or Pregnancy is Normal...	0	0	4	25	2	22	6	20
Mother Feels She is in Good Health, but is Concerned About Fetus..	0	0	2	13	1	11	3	10
Complications (Total)..	3	60	11	69	7	78	21	67
Of Pregnancy	3	60	11	69	6	67	12	40
Of Delivery	1	20	4	25	2	22	6	20
Of Fetus	1	20	4	25	2	22	7	23

Note: Per cent adds up to more than 100 because some respondents gave more than one answer.

Table 31. Comparison of Patient's Observations in Self Validation of Pregnancy by Parity of Mother

Patient's Observations	Primiparas		Multiparas		Total	
	N	%	N	%	N	%
Ceasation of Menstruation...	4	67	22	88	26	84
Breast Changes .....	4	67	1	4	5	19
Increased Size of Abdomen and Waist .....	2	33	1	4	3	10
Nausea (Morning Sickness)...	2	33	4	16	6	19
Don't Know .....	1	16	0	0	1	3
Quickening	0	0	3	12	3	10

Note: Per cent adds up to more than 100 because some respondents gave more than one answer.

Table 32. Duration of Delay Following Decision of Need for Seeking Prenatal Supervision by Trimester of Initiation of Prenatal Care

Duration of Gravida's Delay	First Trimester		Second Trimester		Third Trimester		Total	
	N	%	N	%	N	%	N	%
No Delay (Less Than 2 Weeks).....	4	80	4	25	4	40	12	39
1 Month .....	1	20	4	25	1	10	6	19
2 Months.....	0	0	2	12.5	1	10	3	10
3 Months.....	0	0	2	12.5	0	0	2	6
4 Months or Greater .....	0	0	2	12.5	3	30	5	16
No Response.....	0	0	2	12.5	1	10	3	10
Total .....	5	100	16	100.0	10	100	31	100

Table 33. Major Reasons Influencing Gravida's Decision to Seek Prenatal Care

Response	First Trimester		Second Trimester		Third Trimester		Total	
	N	%	N	%	N	%	N	%
Therapy .....	4	89	6	37	0	0	10	32
"Thinks Prenatal Care is Necessary" ..	1	20	12	75	6	60	19	61
Group Pressures .....	5	100	3	19	2	20	10	32
Other .....	0	0	2	12	3	30	5	16
Diagnosis	0	0	1	6	0	0	1	4
Bed for Delivery	0	0	1	6	1	10	2	6
Child Care or Transportation Arranged	0	0	0	0	2	20	2	6

Note: Per cent adds up to more than 100 because Gravidae gave more than one answer.

Table 34. Sources of Support in Initiating Prenatal Care

N: 25

Response	First Trimester N: 4		Second Trimester N:13		Third Trimester N:8		Total	
	N	%	N	%	N	%	N	%
Mother .....	3	75	5	38	1	12	9	36
Husband .....	1	25	6	46	4	50	11	44
Professional Worker..	0	0	2	15	1	12	3	12
Peer .....	0	0	0	0	5	63	5	20
Other Members of Family .....	1	25	3	23	1	23	5	20
Sister	1	25	0	0	1	12	2	8
Mother-in-Law	0	0	2	15	0	0	2	8
Aunt	0	0	1	8	0	0	1	4

Note: Per cent adds up to more than 100 because Gravidae gave more than one answer.

Table 35. Percentage Distribution of Pregnant Women  
Delaying Visit to Physician for Prenatal Care

Response	First Trimester		Second Trimester		Third Trimester		Total	
	N	%	N	%	N	%	N	%
Yes .....	0	0	11	69	6	60	17	55
No .....	5	100	5	31	4	40	14	45
Total .....	5	100	16	100	10	100	31	100

Table 36. Reasons for Delay in Seeking Prenatal Care

N:17

Reasons for Delay	First Trimester		Second Trimester N:11		Third Trimester N:6		Total	
	N	%	N	%	N	%	N	%
Economic .....	0	0	3	27	2	33	5	29
Fear of Physician or..			5	45	2	33	7	41
Aversion to Clinic.....	0	0	1	9	2	33	3	18
Did Not Feel Care Was Important .....	0	0	4	36	0	0	4	24
Inadequate Information Concerning Clinic.....	0	0	1	9	1	17	2	12

Note: Per cent adds up to more than 100 because Gravidae gave more than one answer.

Table 37. Percentage Distribution of Pregnant Women and Whether or Not Other Choices for Prenatal Care Had Been Considered

Response	First Trimester		Second Trimester		Third Trimester		Total	
	N	%	N	%	N	%	N	%
Yes .....	1	20	3	19	2	20	6	19
No .....	4	80	13	81	8	80	25	81
Total .....	5	100	16	100	10	100	31	100



Table 38. Gravida's Rationale for Visiting the Physician

Rationale For Seeking Care	First Trimester		Second Trimester		Third Trimester		Total	
	N	%	N	%	N	%	N	%
Preventive Care ...	1	20	12	75	8	80	21	68
Therapy .....	3	60	2	12	0	0	5	16
Diagnosis .....	0	0	3	19	2	20	5	16
Obtain Bed For Delivery .....	0	0	2	12	4	40	6	19
Don't Know or Unstated .....	1	20	1	6	0	0	2	6

Note: Per cent adds up to more than 100 because respondents gave more than one answer.

Table 39. A Comparison of Primiparas' and Multiparas' Rationale for Visiting the Physician

Gravida's Rationale for Seeking Prenatal Care	Primiparas		Multiparas		Total	
	N	%	N	%	N	%
Preventive Care .....	3	50	18	72	21	68
Therapy .....	2	33	3	13	5	16
Diagnosis .....	2	33	3	13	5	16
Obtain a Bed for Delivery ..	0	0	6	24	6	19
Don't Know .....	1	17	1	4	2	6

Note: Per cent adds up to more than 100 because respondents gave more than one answer.

APPENDIX B

## INTERVIEW SCHEDULE

NAME: _____	CODING:	TRIMESTER: _____	WK. GEST. _____
DATE OF REGISTRATION: _____	EDUCATION: _____	GRAV. _____	AGE: _____
LMP: _____	EDC: _____	CLINIC STATUS: _____	PARITY: _____
		CLINIC NUMBER: _____	

IS THIS THE FIRST TIME YOU ARE SEEING A DOCTOR FOR THIS PREGNANCY?

ARE YOU MARRIED, SEPARATED, DIVORCED, WIDOWED, SINGLE?

ARE YOU NOW LIVING WITH YOUR HUSBAND? YES \_\_\_\_\_ NO \_\_\_\_\_

WHAT PREGNANCY IS THIS FOR YOU? \_\_\_\_\_ MISCARRIAGES? \_\_\_\_\_  
NEONATAL DEATHS? \_\_\_\_\_

1. When are you expecting the baby?
  
2. How far along do you think you are in your pregnancy?
  
3. How do you figure out how long you have been pregnant?
  
4. When did you decide that you were pregnant? What was happening that made you think so?
  
5. Did anyone advise or help you to decide you were pregnant?





17. What do you expect the nurses in the clinic to do for you?
18. When do you think the doctor can tell if a woman is pregnant?
19. When in pregnancy do you think women ought to go to the doctor for the first time? Are there any reasons why women don't go at this time?
20. How often do you think a woman should see a doctor during pregnancy?
21. Have you received any information or advice about pregnancy and labor? From what sources?
22. Had you thought of making an appointment before this one?
23. Had you considered going elsewhere for care?
24. Did you want to have a baby at this time?

PERSONAL-SOCIAL DATA

1. BIRTH DATE: \_\_\_\_\_ POPULATION NO. \_\_\_\_\_ PLACE OF BIRTH: \_\_\_\_\_
2. Were you working before you became pregnant?
3. Have you stopped working?
4. How far did you go in school:
5. How old were you then?
6. If less than 12 grades completed ask:  
How did it happen that you didn't go on?
7. How far did your husband go in school?
8. Is he working:
9. What kind of work does he do?



APPENDIX C

PHS-3003-1  
REV. 7-60  
(3)

1. PATIENT IDENTIFICATION

OBSTETRICAL ADMINISTRATIVE RECORD

2. LAST NAME			3. OPD NO.			4. HOSPITAL NO.			5. SPECIAL NO.			
6. FIRST NAME			7. MIDDLE			8. MAIDEN			COMPLETE ONLY IF NEEDED BY HOSPITAL			
9. ADDRESS (Street and Number)						(City, Zone and State)			10. TELEPHONE NO.		11. EDC	
12. DATE REGISTERED Mo. Day Year			13. DATE FORM INITIATED Mo. Day Year			14. FIRST DAY LMP Mo. Day Year			15. DATE OF BIRTH Mo. Day Year			16. AGE
17. MARITAL STATUS <input type="checkbox"/> S <input type="checkbox"/> M <input type="checkbox"/> CL <input type="checkbox"/> W <input type="checkbox"/> D <input type="checkbox"/> SEP. 1 2 3 4 5 6						18. RACE <input type="checkbox"/> W <input type="checkbox"/> N <input type="checkbox"/> OR <input type="checkbox"/> PR <input type="checkbox"/> Other 1 2 3 4 8			19. WEEKS OF GESTATION			
20. PATIENT STATUS <input type="checkbox"/> Clinic 1 <input type="checkbox"/> Private 2			21. SAMPLING FRAME PATIENT SELECTED FOR STUDY <input type="checkbox"/> Based on Systematic Sampling <input type="checkbox"/> Based on Special Sampling (Specify) NOT SELECTED FOR STUDY <input type="checkbox"/> Based on Sampling Design <input type="checkbox"/> For Other Reasons (Specify below)									

Population number \_\_\_\_\_ 1/

County of Residence: \_\_\_\_\_

Place of birth: \_\_\_\_\_

Religious denomination: \_\_\_\_\_

No. of previous pregnancies \_\_\_\_\_

Prenatal care here during last pregnancy? \_\_\_\_\_

If yes, date of delivery: \_\_\_\_\_

Is this the first time you have seen a doctor for this pregnancy? \_\_\_\_\_

Clinic status: \_\_\_\_\_  
.....

Husband's name: \_\_\_\_\_

Interviewer: \_\_\_\_\_

1/ This serves to classify patients on a geographical basis which excludes people not living in a specific area.)

Mrs. Hildagard M. Hatcher

Typist