# PARENTS' KNOWLEDGE OF CHILD DEVELOPMENT: IMPLICATIONS FOR PEDIATRIC PRACTICE

By

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PRACTICE

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# CHAPTER I

## INTRODUCTION AND STATEMENT OF PROBLEM

Experience with infant education programs has shown that the family is the most effective and economical system for fostering the child's development; the earlier such interventions are begun and the longer they are continued, the greater the benefit to the child (Bronfenbrenner, 1974). New knowledge about child development has accumulated rapidly over the past ten years, and this knowledge could be of great benefit to new parents who have many concerns about the development and behavior of their children (Chamberlin, 1974; Hornberger, Bowman, Greenblatt, and Corsa, 1960). Enhanced parental understanding child development might reduce the percentage of children entering first grade who are identified as having significant behavior or learning problems (currently 25-30 percent), as well as decrease the number of other children who appear to function less well than they could (Bower, 1969; Glidwell, Domke, and Kanthor, 1963; Cowen and Miles, 1963). New parents are both eager for information and in great need of support (Charnley and Myre, 1977). Entwisle (1979) found parents neglected to learn about baby care because they considered childbirth itself as the pinnacle of their experience. Because of the demands placed on parents for the responsibility of the infant, they may feel socially isolated (Committee on Public Education, Group for Advancement of Psychiatry, 1973).

The mobility of today's society increases the separation of young parents from their extended families at a critical time in their lives

(Christenberry and Wirtz, 1977). Out of 46 couples, LeMasters (1957) found 38 experiencing marital crises because they had romanticized parenthood. Holland (1977) found many young parents meet parenthood with a feeling of helplessness and inadequacy.

In a review of the literature, Cobb (1976) summarizes data indicating that social support is an important protector against a variety of health consequences relating to life stress. Kempe (1976) also provides some direct evidence that social support can prevent the types of family dysfunction leading to child abuse and neglect.

The earlier parent-oriented infant intervention is begun, the longer lasting its effects, according to research conducted by Kleinman (1977). The work of Thomas, Chess, and Birch (1968) indicates that many behavior problems in pre-school years are related to individual temperament characteristics of children. Parents can be taught to recognize these individual differences in their children and to modify their child-rearing patterns to best fit each type of child (Thomas, Chess, and Birch 1968). These techniques could be considered basic skills which should be taught routinely to all new parents.

The pediatric clinician, during well-child care, has the most generally accepted access to the infant and family. Still, despite data suggesting that the physician has more influence on parent behavior than any source outside the family (Stolz, 1967), the necessity and value of pediatric well-child care as currently practiced has been questioned (Hoekelman, 1975; Yankauer, 1973). One clinical trial with healthy primiparous mother-infant pairs demonstrated that a brief pediatric-intervention during well-child care was effective in changing the relationship of these mothers and their infants in the first six months of life as well as cognitive

development of the infants (Casey and Whitt, 1979). Because of his/her long-term contact with families having young children, the pediatrician is in a strategic spot to influence early child development through parent education and counseling. However, all available studies indicate that the majority of physicians spend little time during well-child visits discussing child behavior and development (Stine, 1952; Starfield and Borkowf, 1960; Korsch, Negrete, Mercer, and Freeman, 1971; Blum, 1950). According to Deisher, Engel, Spielholz, and Stanfast (1965), 82 percent of parents rely on their pediatrician as a main source of child-care information and the most would consult him/her first in regard to a behavior problem with their child.

However, in a study dealing with parents' complaints about their children's health, Starfield and Borkowf (1960) found the physician's consistently failed to attend to the behavior problems cited by the parents in routine well-child checks. The study indicated these possible reasons for the lack of physician's attention to behavioral problems:

1. The physician may not think that the problem is within the purview of his/her medical practice.
2. The physician may feel inadequate in handling behavior problems because of specific deficiencies in his/her training.
3. The management of a behavior problem may be an unrewarding task for a physician accustomed to experiencing relatively rapid results from a specific therapy.
4. Previous unsatisfactory experiences with the management of behavior problems may be a factor.
5. The anticipated time demanded for effective management of a behavior problem may have been a deterrent to the physician's acceptance of a problem (p. 170, 171).

Deisher et al. (1965) pointed out that almost half of the mothers mentioned problems other than physical illness or defect as their main concern with their child. This agrees with the current trend toward a large share of the pediatrician's time being devoted to problems outside

the traditional "healing of the sick," particularly to the areas of health supervision, preventive care and anticipatory guidance (Yankauer, 1973).

The pediatrician's dilemma begins with how many well-child visits should be required and then continues with the debate of whether an "available and attentive" practice is possible. Critics have pointed out that many of the nutritional and infectious disease problems that initially justified frequent visits have been solved or greatly reduced and that early recognition of congenital defects or other health problems can generally be accomplished in one or two visits in the first year, instead of the six to eight which are currently recommended. This view is supported by a recent study (Hoekelman, 1975) which found that reducing the number of well-child visits to three during the first year did not have any significant effects on the health and immunization status of the children in the study, or on the mother's knowledge of routine child-care procedures. Therefore, indications are that pediatricians can meet the needs of parents and well children with less emphasis on physical care and perhaps more emphasis on such areas as child growth and development and guidance.

The question of whether "availability and attentiveness" is compatible with pediatric practice was asked by Hercules and Charney (1969). Basically the dilemma related to whether the practices would be defined as "available or attentive." An available practice meant parents may speak to the pediatrician easily, but as a result, two out of three patients during an office visit are likely to have less time with the pediatrician due to "phone calls." Attentive practices meant parents rarely speak directly with the pediatricians except during the specified "phone period"; but they are seldom interrupted during an office visit.

A number of studies suggest ways in which these visits could be made more productive (Gutelius, Kirsch, MacDonald, Brooks, McErlean, and Newcomb, 1972; Gutelius, Kirsh, MacDonald, Brooks, and McErlean, 1977; Jason and Kimbrough, 1974; Scarr-Salapatek and Williams, 1973; Cullen, 1976). But all these approaches require considerably more time than the ten or fifteen minutes usually devoted to a typical well-child care visit.

Years ago, Bruch and McCune (1948) in describing the psychotherapeutic role of the pediatrician, state:

> He needs to appraise what type of a woman a mother is, what her attitude is in relation to the child, how her personality problems enter into the picture, what she expects of the pediatrician, and how she will be able to carry out his recommendations (p. 406).

One physician stated it this way:

> Physicians by virtue of their heritage and training rely upon encounters with individual patients or parents to accomplish what they view as their mission. The encounter may be supplemented by written instruction or printed educational material. Parental education, support, and counseling may very well be served more effectively, as well as more efficiently, by group discussion rather than individual encounter. We do not even know the educational impact of the materials we distribute, much less the effects of group methods versus individual encounters (Yankauer, 1972, p. 275, 276).

Heavenrich (1973) added that "pediatricians who have been indoctrinated in preventive medicine, health promotion, and early detection of problems will require positive demonstration that there are better alternatives" (p. 279).

Charnley and Myre (1977) stated:

> Available evidence indicates that the first three years of a child's life . . . is a critical time for parent education. The intense involvement and mutual attachment of parents and children, especially the first two years, make the period one in which parents are particularly 'teachable.' New parents are eager for information and in great need of support (p. 19).

Time-motion studies of private pediatric practices have shown that pediatricians devote as much as sixty percent of their in-office time to well-child visits with children two years of age and under (Hercules and Charney, 1969). Another study stated as much as one third of the pediatrician's in-office time was spent on well infants under one year of age (Bergman, Dassel, and Wedgewood, 1966). Since so much of the pediatrician's time is spent with well children and their parents, it is feasible that much of this time could be capitalized upon for the purpose of parent education.

Chamberlin, Szumowski, and Zastowny (1979) reported that physician efforts at parent education and counseling may have positive effects on mother functioning. Mothers are more likely to gain knowledge about child development, report more use of positive contact with their children, and feel more supported in their child-rearing roles if they receive well-child care from practices that make at least a moderate effort to provide guidance and counseling. Perhaps of even greater importance is the relationship between physician effort and the mother's feeling of support.

In order to determine what anticipatory guidance could be offered to parents during well-child care visits, more information is needed about:

a. current child development knowledge of parents using pediatric practices.
b. how the parents acquire child development knowledge (past and present).
c. which educational techniques are preferred by parents for receiving child development information.

## Purpose of the Study

Purpose of the study was to explore the current nature of parents' general knowledge of child development and demographic factors which may be associated with that knowledge. Results will help pediatricians predict the nature of anticipatory guidance techniques which might be provided by parents through the pediatric practice. The specific objectives of the study were:

1. to determine parental knowledge of child development of a sample of parents using pediatric practices and to explore the factors which may be connected with that knowledge (e.g. [a] age, [b] parenting experience, [c] marital status, [d] sex, [e] education completed, [f] occupation, [g] income, [h] family of orientation;)
2. to determine the past and present sources of parents' knowledge of child development;
3. to determine the educational techniques preferred by parents for dissemination of child development information;
4. to make recommendations for pediatricians and staff concerning content for child development educational programs to meet the needs of parents; and
5. to make recommendations for pediatric practices concerning which educational techniques are most preferred by clients.

## Research Questions

Research questions formulated for this study were:

1. Was there a significant difference in parental knowledge of child development according to parents'
   a. age
   b. parenting experience (number of children)
   c. marital status
   d. sex
   e. education completed
   f. occupation
   g. income
   h. family of orientation
2. Was there a significant difference between parents who scored high, medium or low in knowledge of child development and their preferences for certain educational techniques which might be used by the pediatrician?
3. Was there a significant difference between parents who scored high, medium, or low in knowledge of child development and the rating of sources of information they have used in the past?
4. Was there a significant difference between parents who scored high, medium, or low in knowledge of child development and their rating of sources of knowledge as currently helpful to them?

On the basis of the findings of these research questions, recommendations regarding the educational practices were made to assist the pediatrician in meeting the child development information needs of different groups of parents.

## Assumptions of the Study

The following assumptions apply to the design of this study:

1. All socio-economic levels were represented. As reported by the pediatricians in the interviews, the two private practices range from lower to upper economic levels and the clinic setting, lower to middle economic levels.
2. The term "parents" included natural parents, adoptive parents, step parents and legal guardians, also relatives or foster parents who were fulfilling the role of parent for this child.
3. Parents seek support and answers from pediatricians concerning parenting.
4. The sample was representative of each office's "clientele" because the questionnaire was completed, on randomly selected days, while the participant waited for his/her appointment in the waiting room of the pediatrician's office.

## Limitations of the Study

This study was limited to one representative sample for each of the three pediatric practices described. Another limitation of the study was the time allotted for the participants to complete the survey. The time available was determined by the time participants spent in the waiting room before appointments and the cooperation of the participants' child or children in allowing the participant to complete the survey.

## Definition of Terms

Multiparous - a woman who is bearing her second child or has borne two or more children.

Parenting - the responsibility and functioning or nurturing the growing person, i.e., child rearing, by both parents and by the larger community which shares in the socialization of children (Grams, 1972).

Pediatric Practices, types of:

a. Clinic Practice - a group consisting of teaching pediatricians, pediatric residents, nurses, social workers and child development specialists utilizing one office, staff, and facility. Payment is on a sliding scale based on family's income.

b. Group Practice - two or more pediatricians in private practice utilizing one office, support staff, and facility.

c. Single Practice - one pediatrician in private practice.

Pediatrician - a medical doctor who has in addition to license medical training, three years of special training in the development and care of infants and children, and with the treament of their diseases.

Prophylaxis - the prevention of or protection from disease.

Well-Child Care - care given by pediatricians and co-workers to provide each child the opportunities for optimal physical, intellectual, and emotional growth and development at regular intervals in accordance with the age, health conditions, and needs of the child (Council on Pediatric Practice, 1972).

# CHAPTER II

# REVIEW OF LITERATURE

## Stresses of Parenting

Research is indicating that not only are families affected by changing societal and technological factors, but conversely influence the course and direction of the culture and the nation (LeMasters, 1957). Bronfenbrenner (1970) discussed the status of the family in foreboding terms:

> I shall be short, but not very sweet. America's families and children are in trouble. Trouble so deep and pervasive as to threaten the future of our nation. The source of the trouble is nothing less than national neglect of children and of those primarily engaged in their care; America's parents (p. 139).

But even though Bronfenbrenner indicates a negative outlook for families, he still insists that the family is the most effective and economical system for fostering the child's development (Bronfenbrenner, 1974). Holland (1977) found many young parents meet parenthood with a feeling of helplessness and inadequacy. Out of 46 couples, LeMasters (1957) found 38 experiencing marital crises because they had romanticized parenthood. A number of accepted beliefs that LeMasters (1970) later related to the myth of parenthood included:

> Rearing children is fun.
> Children are sweet and cute.
> Children will turn out well if they have 'good' parents.
> Children will improve marriage.
> Two parents are always better than one.
> All married couples should have children.
> Childrearing is easier today because of modern technology (pp. 18-29).

Concerning the comparative ease of rearing children today as opposed to earlier times, Skolnick (1973) makes the following paradoxical observation that

> . . . increased knowledge of pediatrics and child psychology does not necessarily make child rearing any easier. Just as improvements in household appliances have failed to reduce the housewife's working hours, but merely have raised standards of housekeeping, so have child psychology and improved pediatrics raised the standards of child rearing (p. 302).

In a discussion of the difficulties of the transition to parenthood, Rossi (1968) questioned the idea of parenthood as "normal" crisis. She maintained that some parents may not "mature" in response to the strains of parenthood but instead suffer deterioration. The cultural pressure to bear children is so great that many women may have children without any real desire to do so or without any skills for the task.

Jacoby (1969), in an analysis of the parenthood as crisis literature, concluded that there is little doubt that most parents find the arrival of a child calls for major behavioral changes on the part of the parents. Rossi (1968) listed a number of reasons for the difficulty of transition to parenthood. A few of those cited included:

1. The abruptness of transition--with the mother shouldering the responsibility immediately after birth.
2. Paucity of preparation--neither formal nor informal preparation for parenthood is available to most young people today.
3. Lack of guidelines to successful parenthood--definitive and non-controversial guidelines on the parental role are not available (pp. 26-39).

Concerning the diverse and challenging aspects of their many roles, Satir (1972) empathized with parents as she proclaimed:

> Parents teach in the toughest school in the world--the school for making people. You are the board of education, the principal, the classroom teacher, and janitor, all rolled into two. You are expected to be experts on all subjects pertaining to life and living. The list keeps on growing as your family grows . . . I regard this as the hardest, most complicated, anxiety ridden, sweat and blood producing job in the world. It requires the ultimate in patience, common sense, commitment, humor, tact, love, wisdom, awareness, and knowledge. At the same time, it holds that possibility for the most rewarding, joyous experience of a life time (p. 197).

Regardless of the rewards or pressure, tensions and responsibilities inherent in parenthood, the irrevocability of parenthood is stated by Rossi (1968): "We can have ex-spouses and ex-jobs, but not ex-children" (p. 337).

A number of studies have been concerned with the amount of stress or "crisis experiences" involved in parenthood, particularly with the advent of the first child (LeMasters, 1957; Dyer, 1963; Hobbs, 1965; Russell, 1974). Rockower (1964) reported women were pressured in two distinct ways: First, the pressure of too many things to do at once, the fragmentation of too many demands; and secondly, by factors relating to their husbands--his tensions, his unwillingness to communicate, his lack of responsibility for the home and his lack of time for the family. Financial pressures, even at the executive level, were the third most often mentioned stress.

The terminology of crisis research speaks of the "precipitating event" or the "emotionally hazardous event" or "stressful life situations" that pose "coping" tasks for individuals and groups (Parad, 1965). One popular term that is a part of the contemporary crisis literature is "crisis intervention," which applies "to entering into the life situation of an individual or group to alleviate the impact of a crisis--inducing stress in order to help mobilize the resources of those directly or indirectly affected" (Parad, 1965, p. 2). The most appropriate means of intervention regarding the crises in parenting has yet to be determined.

Today, the nuclear family is the most common; whereas, until a few years ago, the extended family was the mode (Margolin, 1975; Montgomery, 1974; Skolnick, 1973). The mobility of today's society increases the separation of young parents from their extended families at a critical time in their lives (Christenberry and Wirtz, 1977).

Much of the current literature on the family refers to the isolation of the nuclear family and the breakdown of kin networks (Skolnick and Skolnick, 1971; Skolnick, 1973; Bronfenbrenner, 1972). The literature states that not only are new parents sometimes isolated from their relatives, but that they may feel socially isolated because of the demands placed on parents for the responsibility of the infant (CPEGAP, 1973). One of the major concerns today deals with our society's failure to replace the kin and community assistance of former times by providing support to families (Bronfenbrenner, 1974; Kenniston, 1974).

## Parental Need for Support

New parents are both eager for information and in great need of support (Charnley and Myre, 1977). Three current educational support programs serving parents of infants (Charnley and Myre, 1977; Wandersman and Wandersman, in press; Kleinman, 1977) were reviewed. The common denominator of the programs was the parents' evaluations: (1) Parents of the Charnley and Myre (1977) study indicated they joined the class because it offered contact with others engaged in the same stage of parenting, (2) In the Wandersman (in press) study, parents indicated they liked the chance to meet other new parents, to share experiences and to discuss common problems, and (3) Mothers of the Kleinman (1977) study recognized the fact that their concerns were both temporary and shared by others in similar circumstances.

Charnley and Myre (1977) felt group support for the new parent was a key element of success in the Seattle Parent-Infant Education Program. They wrote:

> No matter how sophisticated and well educated parents may be, they identify as the primary gain from the class the strength and confidence which develops through encountering and sharing the common experiences of parenthood (p. 19).

In a review of the literature, Cobb (1976) summarizes data indicating that social support is an important protector against a variety of health consequences relating to life stress. Kempe (1976) also provides some direct evidence that social support can prevent the types of family dysfunction leading to child abuse and neglect.

Schaefer (1970) believes that attempts should be made to alleviate stress of families by providing social support to mothers at the time that initial mother-child attachment should be developing. The successful achievement of parenting, with the least amount of stress involved, is made more urgent by the mounting evidence indicating the critical importance of experience in the early years.

## The Need for Early Intervention in Parent Education

Parent education is being delivered by many professional groups including child development specialists, child psychologists, home economists, medical doctors, and social workers. Clarke-Stewart (1978) suggests that there will be a continuing need for parent education in the future, citing such reasons as little practical experience with children due to small family size, increased use of child care outside the home, and isolation from other family members during child rearing years. Other factors adding

to parents' need for information include rapid change in society involving breakdown of traditions, and increased numbers of working mothers and single parents (Bronfenbrenner, 1972; LeMasters, 1977).

Experience with infant education programs has shown that the family is the most effective and economical system for fostering the child's development; the earlier such interventions are begun and the longer they are continued, the greater the benefit to the child (Bronfenbrenner, 1974; Kleinman, 1977). Entwisle (1979) found parents neglected to learn about baby care because they considered childbirth itself as the pinnacle of their experience. In addition, Charnley and Myre (1977) stated:

> Available evidence indicates that the first three years of a child's life . . . is a critical time for parent education. The intense involvement and mutual attachment of parents and children, especially the first two years, make the period one in which parents are particularly 'teachable.' New parents are eager for information and in great need of support (p. 19).

According to Schwartz (1977), physicians, mental health workers, and community groups should coordinate their efforts to provide a variety of programs to parents to facilitiate parent education and postpartum emotional bonding. In a report to the President (Report to the President, 1970), this was further emphasized: "Psychologists, pediatricians, psychiatrists, educators, nutritionists, anthropologists, and other investigators continue to document the critical significance of the first years of life" (p. 230).

New knowledge about child development has accumulated rapidly over the past ten years, and there is a growing awareness of the importance of the first five years of life for the social and cognitive development of the child (Bloom, 1974; White and Watts, 1973; Chamberlin, 1973). This new knowledge could be of great benefit to new parents, who have many concerns

about the behavior and development of their pre-school children and frequent conflicts with them (Chamberlin, 1974; Hornberger et al., 1960).

Enhanced parental understanding of child development might reduce the percentage of children entering first grade who are identified as having significant behavior or learning problems (currently 25-30 percent), as well as decrease the number of other children who appear to function less well than they could (Bower, 1969; Glidwell et al., 1963; Cowen et al., 1963). The work of Thomas, Chess, and Birch (1968) indicated that many behavior problems in pre-school years are related to individual temperament characteristics of children. Parents can be taught to recognize these individual differences in their children and to modify their child-rearing patterns to best fit each type of child (Thomas, Chess and Birch 1968). These techniques could be considered basic skills which should be taught routinely to all new parents.

The effects of the parent-child relationship on the development of the child is of considerable interest to researchers (LeFrancios, 1973; White and Watts, 1973; Thomas, Chess, and Birch, 1970). White's (1973) study to identify the kinds of practices in a child's first six years that would promote the ability to succeed and profit from formal education at age six was summarized by White (1974) in the following conclusions:

> Our study . . . has convinced us of the special importance of the 10-18 month age range for the development of general competence. At this time of life, for most children, several extremely important developments seem to coalesce and force a test of each family's capacity to rear children (p. 61).

Chamberlin's et al. (1979) findings collaborate White's (1973) study. The study (Chamberlin et al., 1979) found the most important predictor of the child's developmental status at 18 months of age was the amount of positive contact between mother and child at one year. Stolz (1967) studied families from the standpoint of determining what influences were

significant in causing parents' behavior patterns and responses. A number of the significant demographic characteristics found in the Stolz (1967) study included: number and age of children with size of family most significant; social position and educational background; the mother's physical condition, interests and feelings; influences from the parents' childhood experiences; the influence of the spouse and especially significant were the specific characteristics and behavior of the child. In a more recent study (Thomas, Chess and Birch, 1970) conclude that not only do parents influence the child, but the child deeply influences the parents.

Great interest has been stimulated by a number of nationally recognized writers who have pointed to the home as the critical factor concerning intellectual competence and academic achievement (Gordon, 1970; White, 1973). Schaefer (1971) refers to "every home a learning center," and the major question as "How can we provide support for families so that they in turn can care for and educate their children" (p. 3). Because of his/her long-term contact with families having young children, the pediatrician is in a strategic spot to influence early child development through parent education and counseling. Thus the advent of the baby into the home marks the beginning of a most important threefold relationship consisting of pediatrician, parents and child.

## Role of Pediatricians in Providing Child-Care Information

The pediatric clinician, during well-child care, has the most generally accepted access to the infant and family. According to Deisher et al. (1965), 82 percent of parents rely on their pediatrician as a main

source of child-care information and the most would consult him/her first in regard to a behavior problem with their child.

A psychologist was the most frequent second choice, with teacher third and relatives in fourth place. Deisher et al. (1965), also inquired about the mother's main difficulty or area of concern with their child. Thirty-six percent mentioned physical problems, such as allergies, or a chronic or recurrent disease. Twenty-five percent were most concerned with normal development, 20 percent with behavior and emotional problems, and 2 percent with their own ability as a parent. Seventeen percent of those answering stated that they had no major difficulty. Almost half of the mothers (Deisher et al., 1965) reported concerns other than physical or medical problems. This agrees with the current trend toward a large share of the pediatrician's time being devoted to problems outside the traditional "healing of the sick," particularly to the areas of health supervision, preventive care and anticipatory guidance (Yankauer, 1973).

Chamberlin et al. (1979) reported that physician efforts at parent education and counseling may have positive effects on mother functioning. Mothers are more likely to gain knowledge about child development, report more use of positive contact with their children, and feel more supported in their child-rearing roles if they receive well-child care from practices that make at least a moderate effort to provide guidance and counseling. Perhaps of even greater importance is the relationship between physician effort and the mother's feeling of support. It is possible then that the supportive aspects of well-child visits may turn out to be the most important of all in terms of the child's long-term development.

One clinical trial with healthy primiparous mother-infant pairs demonstrated that a brief pediatric-intervention during well-child care was

effective in changing the relationship of these mothers and their infants in the first six months of life, as well as cognitive development of the infants (Casey and Whitt, 1979).

The objectives of these age-appropriate interventions were as follows: to improve the mothers' understanding of normal infant development and improve understanding of the individuality of their infants; to promote the mothers' awareness of infant social behaviors; to encourage maternal responsiveness to these social behaviors; and to promote the mothers' feeling of confidence and competence to affect her infant's development. Therefore, indications are that pediatricians can meet the needs of parents and well children with less emphasis on physical care and perhaps more emphasis on such areas as child growth and development and guidance.

However, all available studies indicate that the majority of physicians spend little time during well-child visits discussing child behavior and development (Stine, 1962; Starfield, Borkowf, 1960; Korsch et al., 1971; Blum, 1950). Physicians were expected to help mothers understand what was normal development, and thus to aid them to anticipate future changes in the behavior of the child. By anticipating changes that might be distressing, by preparing the mother for the changes, and helping her know that they are normal, anticipatory guidance should reduce the stresses of child rearing and promote mental hygiene of the child (Stine, 1962). Stine (1962) stated further that listening to the mother's problems and encouraging her to talk are methods that should be basic to a physician-parent relationship within which an effort can be made to deal with ideas that have emotional significance.

In a study dealing with parents' complaints about their children's health, Starfield and Borkowf (1960) found the physicians consistently

failed to attend to the behavior problems cited by the parents in routine well-child checks. Physicians were much more likely to record their awareness of the complaint if it related to a body system or function, as compared with complaints made about behavior and mental problems. The study indicated these possible reasons for the lack of physician's attention to behavioral problems:

1. The physician may not think that the problem is within the purview of his/her medical practice.
2. The physician may feel inadequate in handling behavior problems because of specific deficiencies in his/her training.
3. The management of a behavior problem may be an unrewarding task for a physician accustomed to experiencing relatively rapid results from a specific therapy.
4. Previous unsatisfactory experiences with the management of behavior problems may be a factor.
5. The anticipated time demanded for effective management of a behavior problem may have been a deterrent to the physician's acceptance of a problem.

Current literature gives support concerning the five reasons for lack of physicians' attention to behavioral problems. Reason number one is supported by the fact that pediatric teaching in medical school tends to focus attention on the ill child (Stillman, Rugill, and Sabers, 1978; Werner, Adler, Robinson, Korch, 1979). Yet all physicians who care for children should be familiar with the normal progression of human growth and development to detect and interpret deviations and abnormalities. Often pediatricians never appreciate the scope of normal development until they have children of their own and observe their progress (Stillman et al., 1978).

Reasons numbered two and three seem very feasible when considering that traditional instruction in human growth and development is often inadequate and fragmented in medical school (Stillman et al., 1978). Medical students attempt to learn the concepts by reading pediatric textbooks, attending seminars, administering developmental screening tests to children, and obtaining developmental histories from parents. Several studies attempting to alternate the method of learning child development concepts, by introducing medical students and residents to normal children in settings both within and outside the clinical environment reached varying degrees of success (Parmelee, Liverman, and Kennedy, 1960; Kennell, 1961; Parmelee and Liverman, 1958; Ashbach, Duncan, and Kontik, 1974; Parcel, Nader, and Tiernon, 1977; Stillman and Redfield, 1977).

Support for reason numbers four and five is not as well documented. Interns (Werner et al., 1979) found internship stressful and less satisfying in many regards than they expected. They were often unable to cope adaptively with the stresses encountered. There were also indications of worsening attitudes toward aspects of patient care. The interns (Werner et al., 1979) further commented on their dissatisfaction with their failure to process and learn from the stressful experiences they undergo. Therefore, hypothesis being that an intern with great amounts of stress and limited time tends to address the immediate medical problems, leaving little time for the care or management of behavioral problems.

## Dilemmas of the Pediatrician

The pediatricians are faced with a growing list of dilemmas: How many well-child visits should be required? What should be the contents of the well-child visits? Will the practice be "available or attentive"?

The question of whether "availability and attentiveness" is compatible with pediatric practice was asked by Hercules and Charney (1969). Basically the dilemma related to whether the practices would be defined as "available or attentive." An available practice meant parents may speak to the pediatrician easily, but as a result, two out of three patients during an office visit are likely to have less time with the pediatrician due to "phone calls." Attentive practices meant parents rarely spoke directly with the pediatricians except during the specified "phone period;" but they were seldom interrupted during an office visit.

Hercules and Charney (1969) further stated that to stress availability without sacrificing attentiveness, in the face of increasing patient load, the pediatrician has three broad alternatives: (1) limit the practice and thus preserve attentiveness; (2) accept new patients, but either increase the work day or further decrease the amount of time spent with each patient; (3) use allied health professionals to assume part of the pediatrician's function. Preliminary experience at the University of Rochester with child-health nurse-physician teams in a teaching program indicates that both attentiveness and availability are preserved while physician time is reduced (Hercules and Charney, 1969).

Still, despite data suggesting that the physician has more influence on parent behavior than any source outside the family, (Stolz, 1967) the necessity and value of pediatric well-child care as currently practiced has been questioned (Hoekelman, 1975; Yankauer, 1973). Chamberlin et al. (1979) stated that it is the failure of physicians to develop goals for well-child visits other than a physical examination, imparting information about health and nutrition, and dispensing immunizations that has led to

the current controversy. Perhaps what is needed is a restructuring of the content of well-child visits.

A number of studies suggest ways in which these visits could be made more productive. (Gutelius et al., 1972; Gutelius et al., 1977; Jason and Kimbrough, 1974; Scarr-Salapatek and Williams, 1973; Cullen, 1976). For example, Gutelius showed significant gains on measures of cognitive development as well as decreases in several types of behavior problems for the children of a group of poor, unmarried women between 15 and 19 years of age who received extra support in the form of counseling and education during their pregnancies and the first three years of their children's lives (Gutelius et al., 1972; Gutelius et al., 1977).

In another inner city health clinic, children found to have developmental lags on screening tests were provided direct cognitive stimulation in the home through visits by trained college student volunteers and significant gains in development were produced (Jason and Kimbrough, 1974). Scarr-Salapatek and Williams produced similar positive results by providing extra stimulation to premature infants in a hospital nursery and by teaching mothers to do this in the home (Scarr-Salapatek and Williams, 1973). Cullen found a decrease in the incidence of some behavior problems following his provisions of extra counseling sessions for a sample of patients from his practice (Cullen, 1976).

Time-motion studies of private pediatric practices have shown that pediatricians devote as much as 56 percent of their in-office time to well-child visits with children two years of age and under (Hercules, Charney, 1969). Another study stated as much as one third of the pediatrician's in-office time was spent on well infants under one year of age (Bergman, Dassel, and Wedgewood, 1966).

Critics have pointed out that many of the nutritional and infectious disease problems that initially justified frequent visits have been solved or greatly reduced and that early recognition of congenital defects or other health problems can generally be accomplished in one or two visits in the first year, instead of the six to eight which are currently recommended. This view is supported by a recent study (Hoekelman, 1975) which found that reducing the number of well-child visits to three during the first year did not have any significant effects on the health and immunization status of the children in the study, or on the mother's knowledge of routine child-care procedures. The adequacy of care rendered, in the study, was assessed by measurement of gain in maternal knowledge important for competence in child-rearing; level of maternal satisfaction; degree of maternal compliance; and attainment of the health supervision planned. These observations have led some physicians to suggest that the frequency of routine checkups be reduced, without consideration of how this might affect other desirable outcomes such as influencing positive mother-child interactions, enhancing the child's social and cognitive development, and providing emotional support to the mother.

But all these approaches require considerably more time than the ten or fifteen minutes usually devoted to a typical well-child care visit. Utilizing child development specialists or nurse practitioners may be a step toward making these visits more effective. One recent study found that a group of nurse practitioners did more such teaching than the average pediatrician (Foye, Chamberlin, and Charney, 1977). However, there is also evidence that, unless specially trained for this teaching role, the nurse practitioner will imitate the average physician and bypass this whole area (Korsch et al., 1971).

On over-all care, there seems to be a need to emphasize the importance of more frequent well-child visits during the second year of life. Deisher et al. (1965) indicated there is also a need for more stress on the importance of expert medical care during adolescence, since 35 percent of these mothers, all of whom have obviously felt that specialty care is important during infancy and childhood, indicated that they will discontinue this type of care when the child reaches adolescence.

In the Deisher, Derby, and Sturman (1960) survey of pediatricians, adolescence was rated as first place in a list of subjects needing more emphasis in medical school clinical training. Also high on this list were behavior problems, accidents, and normal growth and development.

## Summary

Promoting the optimal development of the child through parent support, guidance, and developmental screening is a stated goal of well-child care (Council on Pediatric Practice, 1972). Pediatricians striving to achieve this goal have many questions related to parenting education. Leeper, Dales, Skipper, and Witherspoon (1974) summed up the parents' predicament as follows:

> Although parents today are better educated than ever before, our educational system has given little time for preparation for marriage, to studies of home and family life, or to a consideration of childrearing practices. Most information of this type must be gained from one's own experience, from certain professional personnel such as the pediatrician or family doctor, and from the flood of conflicting views found in all types of popular books, magazines and newspapers (p. 3).

As more parent education programs have come into existence in recent years, one concern is whether such programs are responsive to parents' interests and concerns or if the preconceived ideas of the experts dictate

content and medium. Bartz (1978) emphasizes that development of parent education programs must start with an assessment of parents' expressed needs. Parent education must be "relevant to their [parents'] goals, interests, and experiences" and presented in an accessible, credible manner to parents (Bartz, 1978, p. 209).

Pediatricians need to be familiar with current parent education programs, various parenting styles and preferred educational techniques to adequately meet the needs of individual families during well-child visits. As Heavenrich (1973) stated, " . . . pediatricians who have been indoctrinated in preventive medicine, health promotion, and early detection of problems will require positive demonstration that there are better alternatives" (p. 279).

# CHAPTER III

## RESEARCH DESIGN

The purpose of this study was to explore the current nature of parents' general knowledge of child development and demographic factors which may be associated with that knowledge. Results will help pediatricians predict the nature of anticipatory guidance techniques which might be provided for parents through the pediatric practice. Specific objectives of this study were:

1. to determine parental knowledge of child development of a sample of parents using pediatric practices and to explore the factors which may be connected with that knowledge e.g. (a) age, (b) parenting experience, (c) marital status, (d) sex, (e) education completed, (f) occupation, (g) income, (h) family of orientation;
2. to determine the past and present sources of parents' knowledge of child development;
3. to determine the educational techniques preferred by parents for dissemination of child development information;
4. to make recommendations for pediatricians and staff concerning content for child development educational programs to meet the needs of parents; and
5. to make recommendations for pediatric practices concerning which educational techniques are most preferred by clients.

## Research Instrument

The research instrument (Appendix A) contains three sections. A description of each section follows.

### Section I

The first section identifies sources of parents' child development knowledge (past and present), the educational techniques parents prefer and the identification of classes or courses in child development that parents may have completed. A list of fourteen possible sources of child development knowledge was compiled by the investigator for use in this study. The list was developed from review of the literature and was used as an indicator of sources used by parents in the past and how helpful each source has been. Using the same list, parents indicated which sources they were currently using and the degree of helpfulness of each.

The next group of items were devised to determine which educational techniques parents prefer. The first ten are those used by Chamberlin (1979). The remaining four were added as possible options to evaluate pediatricians' use of educational techniques with parents in order to provide a more comprehensive list of possible options for parent education.

In addition, parents were asked whether they would attend a class sponsored by the pediatrician. The final part of this section asked parents to indicate questions or concerns they would discuss with the pediatrician if adequate time were available.

Section II

Items in this section were included to obtain demographic characteristics of the subject. Particular variables of interest were:

a. sex

b. age group

c. relationship of participant to the child being seen by the doctor

d. educational background

e. present marital status

f. number, age and sex of participants' children

g. number, order, age, and sex of participants' siblings

h. family's total income for previous year

i. occupation of participant and spouse

Section III

The 45-item University of Rochester Parent Education Study Child Development Questionnaire (Chamberlin, 1979) was used as the measure of parents' knowledge of child development. The purpose of the instrument was to assess mothers' knowledge of child development in a longitudinal study of efforts to educate mothers about child development in pediatric practices.

The questionnaire included questions about typical stage related behavior, individual differences in temperament, cognitive stimulation and language development, and techniques for modifying behavior. In developing the instrument, the questionnaire was presented for comprehensibility to forty primiparous mothers of varying educational levels, revised according to their suggestions, and tested again with a new sample of forty primiparous and forty multiparous mothers.

The Chamberlin (1979) study tested for reliability and validity in the following ways. The split-half reliability for the Mother Knowledge Questionnaire, corrected with Spearman-Brown formula, was .66 at Time 0 (few days after birth of mother's first child) and .59 at Time 1 (child of one year of age). The correlation between scores at Time 0 and Time 1, a measure of Test-retest reliability, was .69. To investigate the content validity of the knowledge scores, the questionnaire was filled out by a group of pediatricians who were not participating in the study and by a group of developmental psychology graduate students. As expected, the 33 child development experts scored significantly higher (X=39) than the mothers (X=32, $\underline{p} < .001$). Reliability as stated meets minimum requirements for research purposes. The reliability is not high enough to have complete confidence of parental knowledge in the strict sense, but is high enough to do comparisons between groups. A copy of the questionnaire was obtained from Dr. Robert W. Chamberlin, Associate Professor, University of Rochester School of Medicine (see letter Appendix B).

## Piloting of the Instrument

Before use in the research study, the instrument was completed by a group of twenty parents of young children who represented a variety of demographic characteristics. The piloting took place in the lobby and adjoining classroom of a church nursery. Parents were approached by the investigator at three randomly selected church functions. Participants used the time before and after each function, depending on the amount of time individual participants needed to complete the questionnaire. To obtain an atmosphere resembling the pediatrician's waiting room, the investigator simulated the environment by: (1) seating parents with their

children for instruction, (2) allowing traffic from non-participating parents to continue through the classroom, and (3) encouraging the children to explore the "Surprise Box" (Appendix C). The contents included games, toys and puzzles, and were provided by the investigator for child management purposes. Participants were requested to note what problems and/or questions they would encounter if completing this survey in a pediatrician's waiting room.

The investigator verbally explained that the purposes of this pilot study were: (1) to have participants evaluate Sections I and II of the instrument for clarity and understandability of vocabulary and working of items; (2) to determine what techniques would work best in the management of the participant's children while the survey was being completed; and (3) to establish the time it took participants to complete the questionnaire.

The mean time required to complete the questionnaire ranged between 10 to 30 minutes, with a mean of 18. Utilization of the "Surprise Box" made management of the children easier, with the 9 to 14 months' age group requiring the most attention. Caution was taken in predicting ease of child management in pediatric settings, because the children of the pilot study were familiar with both the investigator and the facility, which was not the case in the different pediatric settings.

The patricipants stated that Sections I and II were clear and understandable. One participant wanted to know what procedure to follow if one had more than six siblings. The investigator suggested extending the chart for sibling identification. Another participant did not want to answer the question concerning income. The investigator restated the option of volunteer participation for the survey or for any items within the questionnaire. Six parents completed their questionnaire before the church func-

tion; four parents started answering the questionnaire before the church function and decided to complete the questionnaire after the church function, while ten parents completed their questionnaires after the church function.

## Population and Sample

The target population was parents whose children receive their well-child care from pediatricians. Three basic types of pediatric practices were contacted. The types were identified as: clinic pediatrics, single practices (one pediatrician) and group practices (two or more pediatricians). Personal interviews were conducted with six pediatricians from a two-state area. The purpose of the interviews was to explain the study and seek cooperation and approval to survey their clients. One site was selected for each of the three types of practices. Site selection was based on: (1) the willingness of the pediatrician to cooperate in the survey; (2) the pediatrician's interest level in parent education; (3) the availability of a broad spectrum of socioeconomic status among the clientele of that practice.

The estimated total sample was determined by the current average number of children seen per day by each pediatrician, the estimate that at least one half of the parents would agree to participate, and the schedule for the researcher to spend two full days in each practice. Table I presents a breakdown of sampling units. Two hundred and fifty-five subjects completed the survey. Of these, 230 complete surveys (90%) were useable for the study.

TABLE I

POPULATION - SAMPLE BREAKDOWN

| Pediatric Practice | Estimated Sample | Surveyed Sample | Final Sample |
|---|---|---|---|
| Group | 70 | 100 | 92 |
| Clinic | 60 | 60 | 53 |
| Single | 56 | 95 | 85 |
| TOTALS | 186 | 255 | 230 |

## Data Collection

A second interview with chosen pediatricians was conducted to review the questionnaire, decide on dates for collection of data, and discuss data collection procedures. It was agreed that the investigator would spend two full consecutive days in each setting collecting data. The investigator arrived on assigned days, 30 minutes before the first patient, to prepare the facility for the efficient management of children. All clients with appointments were approached by the investigator, after they were seated in the waiting room, with the following verbal instructions:

> My name is Yolanda McCune. I am an Oklahoma State University graduate student doing research to help pediatricians better meet the needs of parents of young children. I understand this need because I am the mother of three young boys. Dr. (Pediatrician's Name) has given me permission to distribute these questionnaires. The questionnaire takes a few minutes to complete and your participation is strictly on a volunteer basis. Your identity and responses are anonymous.

After determining the client's willingness to participate, the investigator continued with more verbal instructions:

> What is your child's name? How old is he/she? I would be willing to supervise the children for you while you complete the questionnaire. (Child's Name), would you like to see what is in the "Surprise Box?" (Appendix C) If you are called in for your appointment before you have completed the questionnaire, you may take it with you and complete it while in the examination room or complete it here in the waiting room when your appointment is through.

In the event the client wanted to participate but the child (because of illness or for security reasons) wanted the parent to hold him/her, the investigator gave the client a survey in a self-addressed, stamped envelope to be completed at a more convenient time. The management of the children and the use of the "Surprise Box" (Appendix C) was adjusted to meet the specific needs of the three pediatric facilities.

The management of the children included the following: feeding infants, changing diapers, comforting unhappy children, playing games, working puzzles with some children, reading stories, encouraging and answering questions about the poster pictures (brought by investigator). Often five or more children, ranging in age from 2 weeks to 8 years of age, were in the investigator's care at one time. During these intervals the investigator used one or more pieces of child care equipment (infant seat, baby walkers, infant swing set) to ensure as much flexibility and safe care as possible. To prevent the spreading of germs or contagious diseases to other children, all toys and other articles from the "Surprise Box" (that were washable) were rinsed after being used in a zephran chloride (disinfectant) solution. The investigator collected data until the last patient left the facility, averaging ten hours per day.

Each survey was given a number coded to the location. The codes pertained to the different type pediatric practices; the clinic practice was

labeled "C" plus the number; the group practice, "G" plus the number; and the single practice, "S" plus the number. Table II indicates the sample distribution of the two data collecting methods used in this study.

The 230 useable surveys included 204 (89%) that were completed in the waiting room, and 26 (11%) which were started in the waiting room, but were not completed, were returned to the investigator by mail.

TABLE II

DISTRIBUTION OF FINAL SAMPLE

| | Number of Sample Surveyed | Number of Mailed Surveys | Number of Returned Mailed Surveys | Number of Surveys Completed | Number of Data Producing Surveys |
|---|---|---|---|---|---|
| Group | 100 | 19 | 11 | 81 | 92 |
| Clinic | 60 | 15 | 8 | 45 | 53 |
| Single | 95 | 10 | 7 | 78 | 85 |
| TOTAL | 255 | 44 | 26 | 204 | 230 |

## Treatment of Data

Descriptive statistics, frequencies and percentages were used to describe demographic characteristics of the subjects. Chi-square analysis was the major technique used to evaluate relationships between independent variables (sex, age, education level, number of children, family stage,

parents' siblings, birth order and income) and three levels of parents' knowledge of child development. Means, ranges and percentages were used to determine high, medium, and low levels of parent knowledge. In reporting sources of information and educational techniques, means, frequencies for ratings and rankings, Chi-square and a paired t-test statistics were used. Analysis of the estimated attendance rate for a class and for the questions which parents would direct to pediatricians included frequency counts, percentages, Chi-square and confidence intervals for questions.

# CHAPTER IV

## RESULTS AND DISCUSSION

The purpose of this study was to explore the current nature of parents' general knowledge of child development and demographic factors which may be associated with that knowledge. This chapter will answer the following research questions:

1. Was there a significant difference in parental knowledge of child development according to parents'
   a. age
   b. parenting experience (number of children)
   c. marital status
   d. sex
   e. education completed
   f. occupation
   g. income
   h. family of orientation
2. Was there a significant difference between parents who scored high, medium or low in knowledge of child development and their preferences for certain educational techniques which might be used by the pediatrician?
3. Was there a significant difference between parents who scored high, medium, or low in knowledge of child development and the rating of sources of information they have used in the past?

4. Was there a significant difference between parents who scored high, medium, or low in knowledge of child development and their rating of sources of knowledge as currently helpful to them?

This chapter will also include parents' response rate (regarding projected attendance) for a proposed child development class sponsored by their pediatrician. A summary of results from the open-ended question: "If your pediatrician could give you all the time you needed today, what questions about raising your child would you like to talk to him/her about?" will be discussed.

## Demographic Characteristics of Study Sample

Two hundred thirty parents completed this survey. Of these, 200 were female (87%) and 30 were male (13%). The majority of the participating parents were natural parents (N=221, 96%), while the remaining parents were either step parents, foster parents or legal guardians. Eighty-eight percent of the parents (N=203) were married and living with their spouses; 2% (N=6) of the parents were never married; 3% (N=8) were married but separated; 5% (N=12) were divorced and one parent was widowed. Table III shows the age distribution for participating parents. The majority of parents of this survey ranged in age between 20-35 years.

Parents' education levels ranged from grade school to doctorate degrees. Five percent of the parents had junior high educations or less; 31 percent had a high school education; 10 percent had vocational-technical training; 31 percent had some college; 17 percent had a college degree; and 5 percent held advanced degrees.

The participants had a total of 462 children, ranging in age from one week to 37 years old. The wide range was due to several older parents who

were legal guardians of their grandchildren. Therefore, they reported both their own children and the children for whom they were now legally caring. Of the 462 children, 231 were females and 226 males, with 5 cases missing. The parents had an average of 2.03 children, with a range of 1 to 6 children per family. Table IV categorizes families by number of children.

TABLE III

AGE OF PARENTS

| Age | Frequency | Percent |
|---|---|---|
| Younger than 20 years | 10 | 4.3 |
| 20-25 years | 51 | 22.2 |
| 26-30 years | 70 | 30.4 |
| 31-35 years | 62 | 27.0 |
| 36-40 years | 24 | 10.4 |
| 41 years and older | 13 | 5.7 |

The age of the oldest child was used to determine each family's present stage of family development. The stages were divided into: infant family--0 to 2 years; pre-school family--3 to 5 years; school-age family--6 to 12 years; adolescent family--13 to 19 years; and "launching family"--20 years and over. The distribution of family stages is shown in Table V.

TABLE IV

NUMBER OF CHILDREN IN THE FAMILIES

| Number of Children in Family | Number of Families* | Percent |
|---|---|---|
| One Child | 78 | 34.2 |
| Two Children | 91 | 39.9 |
| Three Children | 41 | 18.0 |
| Four Children | 13 | 5.7 |
| Five Children | 3 | 1.3 |
| Six Children | 2 | .9 |

*2 cases missing

TABLE V

NUMBER OF FAMILIES PER STAGE

| Stage of Family Development | Number of Families | Percent |
|---|---|---|
| Infant Family (0-2 years) | 61 | 26.5 |
| Pre-School Family (3-5 years) | 52 | 22.6 |
| School-Age Family (6-12 years) | 80 | 34.8 |
| Adolescent Family (13-19 years) | 27 | 11.7 |
| Launching Family (20 years and older) | 10 | 4.3 |

The parents reported the number of siblings they had in their family of orientation. Birth order of the parent was established using the categories of: oldest child, middle child, youngest child and only child. Table VI shows the characteristics of the parents' family of orientation.

TABLE VI

CHARACTERISTICS OF FAMILY OF ORIENTATION

| Variable | Number | Percent |
|---|---|---|
| Siblings* | | |
| One Sibling | 19 | 8.3 |
| Two Siblings | 34 | 14.9 |
| Three Siblings | 56 | 24.6 |
| Four Siblings | 49 | 21.5 |
| Five Siblings | 23 | 10.1 |
| Six Siblings | 23 | 10.1 |
| Seven or more Siblings | 24 | 10.4 |
| Birth Order** | | |
| Oldest Child | 68 | 29.6 |
| Middle Child | 78 | 34.0 |
| Youngest Child | 61 | 26.5 |
| Only Child | 19 | 8.3 |

* 2 cases missing
** 4 cases missing

Occupations for participating parents and their spouses are shown in Table VII. Female responses to occupation showed that 46 percent (N=106) were housewives. The relatively high number of missing cases (N=25) for

male occupations was due to divorced, never married, separated and widowed females who had no male spouse.

TABLE VII

OCCUPATIONS OF SUBJECTS AND THEIR SPOUSES

| Occupational Classification | Male* | | Female** | |
|---|---|---|---|---|
| | Number | Percent | Number | Percent |
| Professionals, doctors, lawyers, executives, pharmacist | 15 | 7.3 | 4 | 1.8 |
| Managers, teachers, engineers, nurses, accountants | 50 | 24.2 | 43 | 18.9 |
| Skilled and construction trades | 34 | 16.6 | 1 | .4 |
| Technical, sales, clerical and related occupations | 19 | 9.3 | 34 | 14.9 |
| Laborer, operators, factory workers, waitress, cosmetology | 61 | 29.8 | 26 | 11.4 |
| Service occupation, including military | 10 | 4.9 | 1 | .4 |
| Farming, forestry, fishing and hunting occupations | 5 | 2.4 | 1 | .4 |
| Housewife, Househusband | - | - | 106 | 46.5 |
| Student | 5 | 2.4 | 9 | 3.9 |
| Unemployed | 2 | 1.0 | 2 | .9 |
| Other | 4 | 2.0 | 1 | .4 |

*males - 25 cases missing
**females - 2 cases missing

## Level of Parents' Knowledge of Child Development by Demographic Characteristics of Parents

Table VIII summarizes the results of chi-square analysis used to test for significant associations between demographic variables and the parents' level of knowledge of child development. The parents' level of knowledge of child development was determined by a composite score using items from the Child Development Questionnaire.

The range of possible scores was 0 to 45. The actual range of parents' knowledge scores was from 14 to 43, with a mean of 30.65 and a standard deviation of 5.03. Scores were divided into the following levels: "high" = 34 to 43; "medium" = 29 to 33; or "low" = 14 to 28. Of the 230 parents, 30 percent (N=68) scored "high," 38 percent (N=88) scored "medium," and 32 percent (N=74) scored "low."

There was a significant association between level of knowledge of child development by age ($x^2$ = 30.10, DF = 10, $p < .0001$), education level ($x^2$ = 51.83, DF = 10, $p < .0001$), and income ($x^2$ = 40.71, DF = 8, $p < .0001$).

Inspection of Table VIII shows that 80 percent of the parents less than 20 years of age scored low on knowledge of child development. In the 20-25 year age group, 51 percent scored low in knowledge of child development, compared to only 19.4 percent of the parents in the 30-35 year age range. While no parents less than 20 years of age scored high in knowledge of child development, over 30 percent of older parents (ages 26-41) scored high. The highest scoring group of parents were in the age range of 31-35 years.

TABLE VIII

LEVEL OF PARENT KNOWLEDGE OF CHILD DEVELOPMENT BY DEMOGRAPHIC CHARACTERISTICS OF PARENTS

| Demographic Characteristics | N | Percentage of Parents Scoring Low, Medium or High on Child Development Test | | | Chi-Square | p Value |
|---|---|---|---|---|---|---|
| | | Low | Medium | High | | |
| Sex | | | | | | |
| Male | 30 | 50.0 | 33.3 | 16.7 | 5.57 | .06 |
| Female | 200 | 29.5 | 39.0 | 31.5 | | N.S. |
| Age | | | | | | |
| Less than 20 years | 10 | 80.0 | 20.0 | -- | | |
| 20 to 25 years | 51 | 51.0 | 35.3 | 13.7 | | |
| 26 to 30 years | 70 | 22.9 | 42.9 | 34.3 | | |
| 31 to 35 years | 62 | 19.4 | 41.9 | 38.7 | 30.02 | .0009 |
| 36 to 40 years | 24 | 29.2 | 33.3 | 37.5 | | |
| 41 years and over | 13 | 38.5 | 30.8 | 30.8 | | |
| Education | | | | | | |
| Junior High or less | 11 | 72.7 | 27.3 | -- | | |
| High School | 71 | 46.5 | 43.7 | 9.9 | | |
| Vo-Tech | 23 | 39.1 | 39.1 | 21.7 | | |
| Some College | 73 | 26.0 | 38.4 | 25.6 | 51.84 | .0000 |
| College Degree | 39 | 12.8 | 35.9 | 51.3 | | |
| Advanced Degree | 13 | -- | 23.1 | 76.9 | | |

TABLE VIII (continued)

| Demographic Characteristics | N | Percentage of Parents Scoring Low, Medium or High on Child Development Test | | | Chi-Square | p Value |
|---|---|---|---|---|---|---|
| | | Low | Medium | High | | |
| Number of Children | | | | | | |
| One child | 78 | 38.5 | 26.4 | 32.1 | | |
| Two children | 91 | 29.7 | 40.7 | 29.7 | 8.12 | .23 |
| Three children | 41 | 22.0 | 53.7 | 24.4 | | N.S. |
| Four children or more | 18 | 38.9 | 27.8 | 33.3 | | |
| Family Stage | | | | | | |
| Infant | 61 | 39.3 | 32.8 | 27.9 | | |
| Pre-school | 52 | 38.5 | 36.5 | 25.0 | | |
| School-age | 80 | 22.5 | 43.8 | 33.8 | 6.98 | .54 |
| Adolescent | 27 | 33.3 | 33.3 | 33.3 | | N.S. |
| Launching | 10 | 30.0 | 50.0 | 20.0 | | |
| Parents' Siblings | | | | | | |
| One sibling | 19 | 31.6 | 36.8 | 31.6 | | |
| Two siblings | 34 | 38.2 | 32.4 | 29.4 | | |
| Three siblings | 56 | 25.0 | 42.9 | 32.1 | | |
| Four siblings | 49 | 28.6 | 28.6 | 42.9 | 21.66 | .08 |
| Five siblings | 23 | 30.4 | 47.8 | 21.7 | | N.S. |
| Six siblings | 23 | 43.5 | 56.5 | -- | | |
| Seven siblings or more | 24 | 33.3 | 33.3 | 33.3 | | |
| Birth Order | | | | | | |
| Oldest | 68 | 29.4 | 38.2 | 32.4 | | |
| Middle | 78 | 30.5 | 41.5 | 28.0 | 1.61 | .95 |
| Youngest | 61 | 37.7 | 34.4 | 27.9 | | N.S. |
| Only | 19 | 31.6 | 36.8 | 31.6 | | |

TABLE VIII (continued)

| Demographic Characteristics | N | Percentage of Parents Scoring Low, Medium or High on Child Development Test | | | Chi-Square | p Value |
|---|---|---|---|---|---|---|
| | | Low | Medium | High | | |
| Income | | | | | | |
| $ 8,000 or less | 25 | 68.0 | 8.0 | 24.0 | | |
| $ 8,000 - 18,000 | 62 | 46.8 | 37.1 | 16.1 | | |
| $18,100 - 28,000 | 65 | 21.5 | 44.6 | 33.8 | 40.71 | .0000 |
| $28,100 - 38,000 | 50 | 14.0 | 48.0 | 38.0 | | |
| $38,100 and over | 24 | 12.5 | 41.7 | 45.8 | | |

For parents with an education level of junior high school or less, 73 percent scored low in knowledge of child development. While no parents with a junior high school education scored high on knowledge of child development, over 35 percent of all parents with some college or more scored high. It is not known to what extent parents with less education may have had difficulty understanding the vocabulary used in the questionnaire. However, the researcher did encourage each parent to ask if items were not clear to them.

Table VIII indicates that 68 percent of parents with income of $8,000 or less scored low in knowledge of child development. Over 40 percent of all categories with incomes of $18,000 or over scored medium in knowledge of child development, and over 33 percent of all categories with incomes of $18,000 or over scored high. This finding is not surprising since income often reflects age and education level.

Level of knowledge of child development was not significantly associated at the .05 level by sex ($x^2 = 5.57$, DF = 2, $p < .06$, NS), number of children ($x^2 = 8.12$, DF = 6, $p < .22$, NS) family stage ($x^2 = 6.98$, DF = 8, $p < .53$, NS), number of parents' siblings ($x^2 = 21.65$, DF = 14, p .08, NS), and birth order of parents ($x^2 = 1.61$, DF = 6, $p < .95$, NS).

## Parents' Past and Present Sources of Child Development Information

Parents were asked to indicate how helpful each of the fourteen sources of information listed had been in the past in gaining knowledge about raising children (Appendix A, Part I, Item 1). In another section, parents were asked to also indicate how helpful those fourteen sources of

information were now in gaining knowledge about raising children (Appendix A, Part I, Item 2). Means and frequencies for helpfulness ratings and the ranking by order of most helpful for past and present sources is shown in Table IX. Possible range for helpfulness was 1-5. Mean scores were derived only from parents who reported use of the source.

TABLE IX

PARENTS' SOURCES OF CHILD DEVELOPMENT INFORMATION

| Past Sources | | | Present Sources | | |
|---|---|---|---|---|---|
| Sources | N | Means | Ranked Sources | N | Means |
| | (Possible Range 1-5) | | | (Possible Range 1-5) | |
| 1. Pediatricians | 220 | 3.84 | 1. Pediatricians | 208 | 3.76 |
| 2. Parents | 221 | 3.62 | 2. Parents | 201 | 3.43 |
| 3. Family | 222 | 3.32 | 3. Family | 211 | 3.23 |
| 4. Nurses | 201 | 3.17 | 4. Nurses | 157 | 3.12 |
| 5. Books | 203 | 3.13 | 5. Books | 192 | 3.07 |
| 6. Magazines | 193 | 2.86 | 6. Friends | 210 | 2.82 |
| 7. Educational Classes | 94 | 2.82 | 7. Magazines | 178 | 2.76 |
| 8. Friends | 223 | 2.76 | 8. Teachers | 130 | 2.72 |
| 9. Child Development Specialist | 66 | 2.76 | 9. Other Physicians | 118 | 2.70 |
| 10. Other Physicians | 154 | 2.76 | 10. Child Development Specialist | 44 | 2.66 |
| 11. Teachers | 151 | 2.58 | 11. Educational Classes | 71 | 2.52 |
| 12. Parent Organizations | 65 | 2.20 | 12. Parent Organizations | 53 | 2.47 |
| 13. Television | 181 | 2.17 | 13. Television | 172 | 2.24 |
| 14. Social Workers | 44 | 1.79 | 14. Social Workers | 39 | 2.10 |

Table IX indicates that the first five sources are ranked in the same order for past and present helpfulness to parents. Three major categories

of sources were most helpful for parents. The three categories were: (1) Health Professionals (pedatricians and nurses), (2) Relatives (their parents and families), and (3) Printed Media (books and magazines). Large numbers of parents (N = 181 for past source and N = 172 for present source) indicated they used television as a source of information, but they gave it a very low ranking in helpfulness.

A paired t-test of the mean ranks was used to test for significant differences between the helpfulness of a source in the past compared to present helpfulness. Table X presents results for each pair. Two-tailed probability is reported because the researcher predicted no direction.

TABLE X

PAIRED T-TEST FOR HELPFULNESS OF PAST AND PRESENT SOURCES OF INFORMATION

| Paired Sources | N | Mean Rank | | t | Probability (Two-Tailed) |
|---|---|---|---|---|---|
| | | Past | Present | | |
| Parents | 200 | 3.72 | 3.42 | 4.95 | .0001 |
| Family | 208 | 3.35 | 3.23 | 2.03 | .040 |
| Friends | 207 | 2.82 | 2.80 | 0.24 | NS |
| Pediatricians | 204 | 3.88 | 3.76 | 2.06 | .040 |
| Other Physicians | 112 | 2.79 | 2.71 | 1.05 | NS |
| Teachers | 121 | 2.69 | 2.75 | -0.74 | NS |
| Nurses | 154 | 3.31 | 3.14 | 3.15 | .002 |
| Child Development Specialist | 41 | 2.51 | 2.49 | 0.15 | NS |
| Parent Organization | 48 | 2.21 | 2.42 | -1.28 | NS |
| Social Workers | 32 | 1.72 | 1.84 | -1.07 | NS |
| Books | 188 | 3.19 | 3.07 | 1.94 | .050 |
| Magazines | 172 | 2.93 | 2.77 | 3.51 | .001 |
| Educational Classes | 62 | 2.73 | 2.45 | 2.33 | .023 |
| Television | 165 | 2.21 | 2.24 | -0.70 | NS |

Although some of the tests showed statistically significant differences, these differences are less meaningful since inspection of Table X shows that the sources such as parents, family, pediatrician and nurses were consistently ranked highest by parents in both past and present.

Chi-square analysis was performed on the above data, primarily for descriptive purposes. A subsequent analysis was performed to analyze the differences that exist between groups using analysis of variance (F-ratio). The statistical findings for analysis of variance between groups can be found in Appendix D, but will not be discussed here.

Table XI reflects a comparison of the helpfulness of sources of knowledge as ranked by parents who scored low, medium and high in knowledge of child development.

The parents scoring "low" used the same sources for both past and present. Parents scoring "medium" reversed the order of nurses and family in helpfulness with the present sources being identical to the "low" scoring parents. Parents scoring "high" were the only group to indicate parents as more helpful than pediatricians. However, when reporting present sources, the "high" group returned pediatricians to the number one position and parents as second. The child development specialist was ranked as a significant source of helpfulness by parents who scored high in knowledge of child development.

## Parents' Preference for Educational Techniques

Parents indicated how helpful each of fourteen educational techniques would be if used by their pediatricians or staff. Means and frequencies

for helpfulness ratings and the ranking by order of most helpful techniques is shown in Table XII. Possible rating for helpfulness was 1-5.

TABLE XI

FIRST FIVE SOURCES OF INFORMATION CROSSBREAK WITH LEVEL OF PARENT KNOWLEDGE

| Level of Parents' Knowledge | Past Sources Ranked in Order of Helpfulness | Mean Rating | Present Sources Ranked in Order of Helpfulness | Mean Rating |
|---|---|---|---|---|
| | 1. Pediatricians | 3.90 | 1. Pediatricians | 3.75 |
| | 2. Parents | 3.57 | 2. Parents | 3.46 |
| Low | 3. Family | 3.41 | 3. Family | 3.38 |
| | 4. Nurses | 3.27 | 4. Nurses | 3.06 |
| | 5. Books | 3.14 | 5. Books | 3.02 |
| | 1. Pediatricians | 4.06 | 1. Pediatricians | 3.90 |
| | 2. Parents | 3.60 | 2. Parents | 3.46 |
| Medium | 3. Nurses | 3.26 | 3. Family | 3.25 |
| | 4. Family | 3.21 | 4. Nurses | 3.18 |
| | 5. Books | 3.09 | 5. Books | 3.07 |
| | 1. Parents | 3.71 | 1. Pediatricians | 3.60 |
| | 2. Pediatricians | 3.49 | 2. Parents | 3.35 |
| High | 3. Family | 3.38 | 3. Child Development Specialist | 3.27 |
| | 4. Child Development Specialist | 3.29 | 4. Nurses | 3.11 |
| | 5. Educational Classes | 3.18 | 5. Books | 3.11 |

TABLE XII

PARENTS' PREFERENCE FOR EDUCATIONAL TECHNIQUES

| Order of Preference | Educational Technique | Mean Rating |
|---|---|---|
| 1. | Planned discussions about specific aspects of child development carried out at each well-child visit by the pediatrician | 3.635 |
| 2. | A 9 a.m. to 5 p.m. telephone service available for parents with specific questions or problems | 3.533 |
| 3. | Giving educational pamphlets and materials to parents | 3.397 |
| 4. | Scheduling extra visits for new parents or those with concerns or problems | 3.288 |
| 5. | Having a call hour (1 hour a day) during which parents are encouraged to call in with specific questions | 3.196 |
| 6. | Suggesting books parents could read | 3.153 |
| 7. | Planned discussions about specific aspects of child development carried out at each well-child visit by a specialist trained in child development | 3.144 |
| 8-9 | Utilizing mental health professionals such as social workers or psychologists to help parents with complex problems | 3.070 |
| 8-9 | Planned discussions about specific aspects of child development carried out at each well-child visit by a nurse | 3.070 |
| 10. | Maintaining a lending library | 2.900 |
| 11. | Conducting group teaching sessions with parents | 2.869 |
| 12. | Having a trained person in the waiting room to consult about child-rearing questions while waiting for doctor's appointment | 2.821 |
| 13. | Bulletin board displays in waiting room | 2.704 |
| 14. | Use of audiovisual materials (movies, filmstrips, etc.) | 2.611 |

TABLE XIII

FIRST FIVE EDUCATIONAL TECHNIQUES CROSSBREAK
WITH LEVEL OF PARENT KNOWLEDGE

| Educational Technique | Parents' Knowledge of Child Development | | | | | |
|---|---|---|---|---|---|---|
| | Low | | Medium | | High | |
| | Ranking | Mean Rate | Ranking | Mean Rate | Ranking | Mean Rate |
| A 9 a.m. to 5 p.m. telephone service available for parents with specific questions or problems | 1 | 3.47 | 2 | 3.43 | 2 | 3.74 |
| Planned discussion about specific aspects of child development carried out at well-child visit by pediatrician | 2 | 3.30 | 1 | 3.70 | 1 | 3.91 |
| Giving educational pamphlets and materials to parents | 3 | 3.21 | 3 | 3.40 | 3 | 3.60 |
| Scheduling extra visits for new parents or those with concerns or problems | 4 | 3.10 | 4 | 3.22 | 4 | 3.59 |
| Planned discussion about specific child development carried out at each well-child visit by a child development specialist | 5 | 3.00 | -- | | -- | |
| Having a call hour (1 hour a day) during which parents are encouraged to call in with specific questions | -- | | 5 | 3.19 | -- | |
| Planned discussion about specific aspects of child development carried out at each well-child visit by a nurse | -- | | -- | | 5 | 3.47 |

Table XIII shows the five educational techniques selected as most helpful by parents scoring low, medium and high in knowledge of child development.

Parents scoring "medium" and "high" on the knowledge of child development questionnaire indicated the same first four preferences for educational techniques. Parents scoring "low" indicated the same four sources, while reversing the order of the first two sources. Table XIII reflects that the parents wanted discussion or personal attention by the pediatrician (planned discussion about specific aspects of child development and scheduling extra visits). In case pediatricians could not give personal attention, the parents were willing to use his/her representatives (9 to 5 telephone service, planned discussion with child development specialist or nurse and one hour a day phone service). The parents also indicated that educational pamphlets were helpful.

## Parents' Acceptance of a Class in Child Development as an Educational Technique

Parents were asked to indicate whether or not they would attend if a class on how to raise children were sponsored by their pediatrician. One hundred and fifty-five (67%) parents said they would attend, while 75 (33%) parents said they would not attend such a class. No significant difference was found in response by parents' knowledge of child development ($x^2$ = 4.48, DF = 2, $\underline{p} < .106$, NS).

## Responses to Open-Ended Questions Concerning What Parents Would Like to Discuss with Pediatrician

Parents were asked to respond to the following question: "If your pediatrician could give you all the time you needed today, what questions about raising your child would you like to talk to him/her about?" Of the 230 parents in this study, 122 (53%) responded to this question. After reviewing all (N = 122) responses to the open-ended question, it was found that responses could be coded into five categories. Responses were coded by the researcher and one other person who was naive about the purposes of the study. Coders reached 98 percent agreement on classification of responses. The five categories were: (1) questions concerning discipline and/or parenting styles; (2) questions about child development (examples--age, stages, phases of child development); (3) questions or problems relating to physical care (example--ear infections, drugs, sex education, explanation of physical illness, preventive medicine, health care, teething); (4) questions concerning nutrition and diet (examples--proper diet, how much sugar, feeding schedule, best vitamins, concerns with breast feeding); (5) combination questions where parents were concerned about both [a] discipline or child development, and [b] physical or nutritional needs. Table XIV shows the number and percentages of each type of question parents would ask, according to their knowledge of child development.

Confidence intervals for each of the five categories of questions for pediatricians were calculated and are presented in Table XV (Babbie, 1979). Table XV indicates that most of the questions parents would ask pediatricians would be related to discipline/parenting style (24.6%), child development

TABLE XIV

QUESTIONS TO PEDIATRICIANS CROSSBREAK WITH
LEVEL OF PARENT KNOWLEDGE

| Questions | Low (N=29) N | Percent | Medium (N=45) N | Percent | High (N=48) N | Percent | Total (N=122) | Percentage of all Questions |
|---|---|---|---|---|---|---|---|---|
| 1. Discipline Parenting Style | 7 | 23.3 | 10 | 33.3 | 13 | 43.3 | 30 | 24.6 |
| 2. Child Development | 6 | 19.4 | 10 | 32.3 | 15 | 48.4 | 31 | 25.4 |
| 3. Physical/ Medical Care | 4 | 33.3 | 34 | 25.0 | 5 | 41.7 | 12 | 9.8 |
| 4. Nutrition and Diet | 4 | 36.4 | 5 | 45.5 | 2 | 18.2 | 11 | 9.0 |
| 5. Combination Question (#1 or #2 with #3 or #4) | 8 | 21.1 | 17 | 44.7 | 13 | 34.2 | 38 | 31.1 |

(25.4%), or combination questions of discipline/parenting style or child development with physical or nutrition (31.1%).

TABLE XV

CONFIDENCE INTERVALS FOR QUESTIONS TO PEDIATRICIANS

| Question Category | Percent of Total | 95% Confidence Interval | 95% Confidence Range |
|---|---|---|---|
| 1. Discipline/ Parenting Style | 24.6 | ± .076 | 17%-32% |
| 2. Child Development | 25.6 | ± .077 | 17.7%-33% |
| 3. Physical Care | 9.8 | ± .053 | 4.5%-15% |
| 4. Nutrition and Diet | 9.0 | ± .051 | 3.9%-14% |
| 5. Combination Questions (Question #1 or #2 and #3 or #4) | 31.1 | ± .082 | 22.9%-39% |

## Summary of Results

In reviewing the results of this study, attention should be drawn to the fact that the respondents were parents using pediatric facilities and,

therefore, might not be representative of all parents. Parents used the pediatrician as the main source for knowledge about raising children. Other sources used, in declining order, were: parents, family, nurses and books. Educational techniques preferred by parents were concerned with personal attention from pediatricians (in the form of discussions or phone calls) and educational pamphlets. A majority of parents (67%) indicated they would be interested in a class sponsored by the pediatrician on raising children. Fifty-three percent (N = 122) of the parents responded to the open-ended question they would like to direct to pediatricians if time allowed. The majority (81%) of the questions were concerned with psychosocial issues (discipline/parenting style, child development, or combination questions).

# CHAPTER V

## SUMMARY

The major purpose of this study was to explore the current nature of parents' general knowledge of child development and demographic factors which may be associated with that knowledge. The results of this study were to help pediatricians predict the nature of anticipatory guidance and educational techniques which might be provided to parents through the pediatric practice. Specifically, the study sought to: determine parental knowledge of child development of a sample of parents using pediatric practices and to explore the factors which may be connected with that knowledge (e.g. [a] age, [b] parenting experience, [c] marital status, [d] sex, [e] education completed, [f] occupation, [g] income, [h] source of knowledge, [i] family of orientation); to determine the past and present sources of parents' knowledge of child development; to determine the educational techniques preferred by parents for dissemination of child development information; to make recommendations for pediatricians and staff concerning content for child development educational programs to meet the needs of parents; to make recommendations for pediatric practices concerning which educational techniques are most preferred by clients. Current literature indicates that parents consistently chose pediatricians as a main source of information about children and parent education.

The questionnaire which was developed included three sections to obtain information about: (1) sources of parents' child development knowl-

edge (past and present), educational techniques parents prefer; (2) demographic characteristics of parents; (3) parents' knowledge about child development.

The 230 respondents in this study were parents utilizing three pediatric practices in the south central United States. They responded to the Parents' Knowledge of Child Development: Implications for Pediatric Practice questionnaire while waiting with their children for appointments in the pediatrician's office.

Results indicated that age, education level and income were associated with level of child development kowledge. Parents rated sources according to helpfulness; the first five were: (1) pediatricians, (2) parents, (3) family, (4) nurses, and (5) books. Education techniques preferred by parents were: (1) planned discussions about specific aspects of child development carried out at each well-child visit by the pediatrician; (2) a 9 a.m. to 5 p.m. telephone service available for parents with specific questions or problems; (3) giving educational pamphlets and materials to parents; (4) scheduling extra visits for new parents or those with concerns or problems; and (5) having a call hour (one hour a day) during which parents are encouraged to call in with specific questions.

A majority of parents (67%) indicated they would be interested in a class sponsored by the pediatrician on raising children. Fifty-three percent (N = 122) of the parents responded to the open-ended question they would like to direct to pediatricians if time allowed. The majority (81%) of the questions were concerned with psycho-social issues (discipline/-parenting style, child development, or combination questions).

## Conclusions and Recommendations

Pediatricians Block and Rash (1981) define the health professional's role in well-child care:

> The health professional providing well-baby and well-child care will offer complete care by including guidance for the child and family aimed at identifying and managing problems at hand and anticipating the upcoming developmental period and defining its uniqueness. Aggressive history-taking, aimed at developing parental attitudes and knowledge, followed by active information-giving, can be a vital part of pediatric care (p. 1).

With this definition of pediatricians' role in well-child care in mind, further review of the findings of this study indicate the following recommendations. Anyone planning for educational services or delivery of parenting education information should plan to utilize the parents' main sources of information--medical health professionals, families, and printed media.

Even though there was basic agreement on which educational techniques would be most helpful, high-scoring parents consistently gave all educational techniques higher mean ratings than low-scoring parents. This may indicate a willingness of high-scoring parents to avail themselves of child development information. Ironically, parents that scored high on child development were the same parents who indicated they would use the child development specialists.

This presents a particular challenge to educators in finding creative ways to provide child development information for low-scoring parents. Personal attention from the pediatrician was their preferred educational technique. Failing that, parents indicated they would respond to a nurse and/or child development specialist. In any case, whatever services are delivered, parents preferred to have them associated with the pediatrician.

There was also indication that parents who scored low on knowledge of child development would be accepting of a child development specialist. However, parents scoring high were the ones who had used child development specialists. The educational potential of television was great, as indicated by the high percentage of use. However, since parents gave television such a low rating for helpfulness, it appears that much more could be done to maximize the use of television for providing parent education.

Parents indicated in this study many questions they would ask their pediatricians if time allowed. Most of those questions were of a psychosocial nature. Literature indicates that pediatricians fail to give attention to these questions, generally because of ineffective communication and lack of time. Block and Rash (1981) indicate that the major argument against anticipatory guidance in a pediatric practice is the factor of time. They give four suggestions to help utilize time effectively:

1. Use each visit to offer bits of sage advice after setting the stage with a prenatal discussion that can be shared with many families at once in a group format.
2. Provide written back-up information for parents to read between visits.
3. Explore the competency and availability of other professionals in family-oriented agencies who may provide parenting education consistent with your goals; refer patients to meetings, workshops, or individual sessions.
4. Don't "squeeze in" psychosocial discussions. Schedule time for this endeavor and charge for the time. It is a myth that parents can't or won't want to pay for time devoted to discussions of their most pressing needs (p. 2).

A statement encouraging parents to communicate whatever doubts and worries they might have pertaining to their child's welfare would permit them some opportunity for free report and in turn give the pediatrician cues as to the help and recommendations parent and child might need at that particular time. This recommended procedure for the pediatrician may

involve something of a departure from his/her present method of obtaining information (Raimbault, Cachin, Limal, Eliacheff, Rappaport, 1975; Blum, 1950). Blum (1950) found that pediatricians usually seek information by direct and specific questioning. Such questioning appears in fact to have a deleterious effect not only from the point of view of the pediatrician-parent relationship but also from that of the child's welfare. She further indicated that in the pediatrician's comments to the mother, 68 percent of his/her total comments were classified as Neutral Behavior, which for the most part was a direct or straight-forward manner. Twenty-nine percent of pediatrician's behavior was Positive and 3 percent Negative. It was further found that 75 percent of the pediatrician's comments were Pediatrician-Initiated or self-determined while the remaining 25 percent was Pediatrician-Response Behavior.

Pediatricians who feel they already have good communication skills might be challenged to use the techniques of Raimbault et. al. (1975). They reviewed the transcripts of tape-recorded interviews between pediatricians and their patients. The transcripts showed that the doctors often talked at cross purposes with the patients and their parents, evading emotional issues in favor of quasi-scientific explanations which patients and parents did not understand. The study (Raimbault et. al., 1975) further found that parts of the discourse, at times unconscious, on the part of the doctor held great importance as a means of communication. Reviewing the transcripts of the doctor-patient discourse might be an excellent way of improving a pediatrician's therapeutic communication with the patient.

If periodic well-child visits with physicians are too expensive, or not as effective as they could be in terms of providing education and

emotional support, other alternatives should be explored. One possibility is to restructure well-child visits by reversing the techniques for disseminating information. Presently, in the majority of well-child visits, pediatricians verbally discuss physical, nutritional, or medical problems in detail and leave the psycho-social information to be learned from printed materials (ex: pamphlets). The reverse of this method would be brief discussion about physical, nutritional or medical problems relying on printed material to cover most questions and devoting most of the time to psycho-social issues (child development, parenting style, anticipatory guidance) to be given verbally and reinforced through handwritten instructions (from pediatrician, nurse, or child development specialist) or printed material.

This study was designed to show which educational techniques and sources of information parents prefer. While some of the findings have been useful in making recommendations, it is important not to make too strong generalizations based on the results of the child development questionnaire due to the fact that only minimum requirements of reliability were met. Future studies need to investigate whether or not using preferred techniques and refined communication skills through the most-used sources can make a measureable difference in parents' parenting skills and support.

Finally, implications of this study are that the most effective means of providing information to parents about the education of their children would be through the pediatric practice. Further, the study provides information on which educational techniques would be most helpful for parents. Implications are that pediatric practices could provide a variety of methods to insure that parents receive personalized information through

the pediatric practice. If pediatricians lack time to deliver adequate child development information, it appears that the potential for the effective use of professionals such as nurse practitioners and/or child development specialists is great.

## A SELECTED BIBLIOGRAPHY


Ashbach, N., B. Duncan, and H. Kontik, "Medical School and Elementary School: A Cooperative Experiment." Journal Medical Education, 44: 458, 1974.

Babbie, E., The Practice of Social Research. Belmont, California: Wadsworth Publishing Company, Inc., 1979.

Bartz, K., "Selected Childrearing Tasks and Problems of Fathers and Mothers." The Family Coordinator, 27:209-214, 1978.

Bergman, A. B., S. W. Dassel, and R. J. Wedgewood, "Time Motion Study of Practicing Pediatricians." Pediatrics, 38:254, 1966.

Block, R. W. and F. C. Rash, Handbook of Behavioral Pediatrics. Chicago: Year Book Medical Publishers, Inc., 1981.

Bloom, B. S., Stability and Change in Human Characteristics. New York: John Wiley & Sons, Inc., 1974.

Blum, L. H., "Some Psychological and Educational Aspects of Pediatrics Practice: A Study of Well-Baby Clinics. Genetic Psychology Monographs, 41:3-97, 1950.

Bronfenbrenner, U., "Is Early Education Effective?" Teachers College Record, 1974, 76, 279-303.

Bronfenbrenner, U., "The Future of the Family." The Family in Search of a Future. New York: Appleton-Century-Crofts, 1970.

Bronfenbrenner, U., "The Roots of Alienation." U. Bronfenbrenner (Ed.), Influence on Human Development. Hinsdale, Ill.: Dryden, 1972.

Bower, E. M., Early Identification of Emotionally Handicapped Children in School. 2nd Ed. Springfield, IL: Charles C. Thomas, 1969.

Bruch, H., and D. J. McCune, "Psychotherapeutic Aspects of Pediatric Practice." Pediatrics, 2:405-409, 1948.

Casey, P. H., and J. K. Whitt, "Effect of Pediatric Well-Child Care on the Mother-Infant Relationship and Infant Cognitive Development." Biennial Meeting of the Society for Research in Child Development. San Francisco, CA. March 15-18, 1979 (Eric Document Reproduction Service No. ED 170 026).

Chamberlin, R. W., "Management of Preschool Behavior Problems." Pediatric Clinics North American, 21:33-47, 1974.

Chamberlin, R. W., "New Knowledge in Early Child Development: Its Importance for Pediatricians." American Journal of Diseases of Children, 126:585-587, 1973.

Chamberlin, R. W., E. K. Szumowski, and T. R. Zastowny, "An Evaluation of Efforts to Educate Mothers about Child Development in Pediatric Office Practices." American Journal of Public Health, 69:875-886, 1979.

Charnley, L. and G. Myre, "Parent-Infant Education." Children Today, 6(2):18-21, 1977.

Christenberry, M. A. and P. J. Wirtz, A Strategy for Locating and Building Support Systems for the Expectant and the New Parent. Paper presented at "Toward the Competent Parent: An Interdisciplinary Conference on Parenting," Atlanta, February, 1977. (Eric Document Reproduction Service No. ED 139 524.)

Clarke-Stewart, K., "Popular Primers for Parents." American Psychologist, 33(4):359-369, 1978.

Cobb, S., "Social Support as a Moderator of Life Stress." Psychosomatic Medicine, 38:300-314, 1976.

Committee on Public Education, Group for Advancement of Psychiatry. The Joys and Sorrows of Parenthood. New York: Charles Scribner's Sons, 1973.

Council on Pediatric Practice. Standards of Child Health Care. Evanston, IL. American Academy of Pediatrics, 1972.

Cowen, E., L. Izzo, H. Miles, E. Telschow, M. A. Trost, and M. Zax, "A Preventive Mental Health Program in the School Setting: Description and Evaluation." Journal Psychology, 56:307-356, 1963.

Cullen, K., "A Six Year Controlled Trial of Prevention of Children's Behavior Disorders." Journal of Pediatrics, 88:662-666, 1976.

Deisher, R. W., A. J. Derby, and M. J. Sturman, "Changing Trends in Pediatric Practice." Pediatrics, 25:711, 1960.

Deisher, R. W., W. L. Engel, R. Spielholz, and S. J. Stanfast, "Mothers' Opinions of Their Pediatric Care." Pediatrics, 35:82-90, 1965.

Dyer, E. D., "Parenthood as Crisis: A Re-Study." Journal of Marriage and Family, 25:196-201, 1963.

Entwisle, D., Preparation for Childbirth and Parenting in Families Today, Vol. 1, Euncie Corfman, Editor, National Institute of Mental Health, DHEW Publication No. (ADSM) 79-815, pp. 143-170.

Foye, H., R. W. Chamberlin, and E. Chaney, "Content and Emphasis of Well-Child Visits: Experienced Nurse Practitioners vs. Pediatricians." American Journal of Diseases of Children, 131:794-797, 1977.

Glidwell, J., H. Domke, and M. Kanthor, "Screening in Schools for Behavior Disorders: Use of Mother's Reports of Symptons." Journal of Educational Research, 56:508-515, 1963.

Gordon, T., Parent Effectiveness Training. New York: Peter H. Wyden, 1970.

Grams, A., "Parenting: Concept and Process." Parenting. P. Markum (Ed.), Washington, D. C.: Association of Childhood Education International, 1972.

Gutelius, M., A. D. Kirsch, S. MacDonald, M. R. Brooks, T. McErlean, and C. Newcomb, "Promising Results From a Cognitive Stimulation Program in Infancy." Clinical Pediatrics, 11:585-593, 1972.

Gutelius, M., A. Kirsh, S. MacDonald, M. R. Brooks, and T. McErlean, "Controlled Study of Child Health Supervision: Behavioral Results." Pediatrics, 60:294-304, 1977.

Heavenrich, R. M., "Child Health Supervision--Is It Worth It? A Response." Pediatrics, 52:277-279, 1973.

Hercules, C. and E. Charney, "Availability and Attentiveness--Are These Compatible in Pediatric Practice?" Clinical Pediatrics, 8:381-388, 1969.

Hobbs, D., "Parenthood as Crisis: A Third Study." Journal of Marriage and Family, 27:367-372, 1965.

Hoekelman, R. A., "What Constitutes Adequate Well-Baby Care?" Pediatrics, 55:313, 1975.

Holland, B. R., "An Investigation of Childrearing Problems and Stresses at Specific Stages in the First Three Years of Life." Unpublished Master's thesis, Oklahoma State University, 1977.

Hornberger, R., J. Bowman, Y. Greenblatt, and L. Corsa, Health Supervision of Young Children in California. Berkeley, CA: Department of Public Health, 1960.

Jacoby, A. P., "Transition to Parenthood." Journal of Marriage and Family, 31:720-727, 1969.

Jason, L. and C. Kimbrough, "A Preventive Educational Program for Young Economically Disadvantaged Children." Journal of Community Psychology 2:134-139, 1974.

Kempe, H., "Approaches to Preventing Child Abuse: The Health Visitor Concept." American Journal of Diseases of Children, 130:941-943, 1976.

Kennell, J. H., "Experience with a Medical School Family Study. Journal Medical Education, 36:1649, 1961.

Kenniston, K., "Do Americans Really Like Children?" Childhood Education, 57:6-12, 1975.

Kleinman, H., Effects of a Mother-Infant Program on Positive Feelings of New Mothers: A Pilot Investigation. Master's thesis, California State University, 1977 (Eric Document Reproduction Service No. ED 140 949.)

Korsch, B. M., V. Negrete, S. Mercer, and B. Freeman, "How Comprehensive are Well-Child Visits?" American Journal of Diseases of Children, 122:484-488, 1971.

Leeper, S. H., R. J. Dales, D. S. Skipper, and R. L. Witherspoon, Good Schools for Young Children, 3rd ed., New York: MacMillian Publishing Company, 1974.

LeFrancios, G. R., Of Children--An Introduction to Child Development. Belmont, California: Wadsworth Publishing Company, 1973.

LeMasters, E. E., Parents in Modern America: A Sociological Analysis. Homewood, Ill: Dorsey Press, 1970.

LeMasters, E. E., Parents in Modern America. Homewood, Ill: Dorsey Press, 1977.

LeMasters, E. E., "Parenthood As Crisis." Marriage and Family Living, 19:352-355, 1957.

Margolin, E., Sociocultural Elements in Early Childhood Education. New York: MacMillian, 1975.

Montgomery, J., "The Young, the Old and the American Character." An address presented at the annual meeting of the North Carolina Home Economics Association, Wilmington, North Carolina, November 2, 1974.

Parad, H. and G. Caplan, "A Framework for Studying Families in Crisis." Crisis Intervention: Selected Readings, H. Parad (Ed.), New York: Family Service Association of America, 1965.

Parcel, G. S. ,P. R. Nader, and K. Tiernon, "Evaluation of an Outreach Activity of Pediatric Clerkship Training. Journal Medical Education, 52:429, 1977.

Parmelee, A. H. and L. Liverman, "The Elementary School in Medical Education." Journal Medical Education, 33:655, 1958.

Parmelee, A. H., L. Liverman, and N. Kennedy, "Well Baby Clinics in the First-Year Medical Curriculum: The Family Medicine Course at the University of California at Los Angeles." Journal Medical Education, 35:675, 1960.

Raimbault, G., O. Cachin, J-M Limal, C. Eliacheff, and R. Rappaport, "Aspects of Communication Between Patients and Doctors: An Analysis of the Discourse in Medical Interviews." Pediatrics 55(3):p. 401-405, 1975.

Report to the President. White House Conference on Children, 1970. Washington, D.C.: Superintendent of Documents, U. S. Government Printing Office, p. 230, 1970.

Rockower, I., "Tensions--His and Hers." McCalls 92:1964.

Rossi, R., "Transition to Parenthood." Journal of Marriage and Family, 39:26-39, 1968.

Russell, C. S., "Transition to Parenthood: Problems and Gratifications," Journal of Marriage and Family, 36:294-303, 1974.

Satir, V., Peoplemaking. Palo Alto, Calif.: Science and Behavior Books, Inc., 1972.

Scarr-Salapatek, S. and M. Williams, "The Effects of Early Stimulation on Low-Birth Weight Infants." Child Development, 44:94-101, 1973.

Schaefer, E. S., "Need for Early and Continuing Education." V. H. Denenberg (Ed.), Education of the Infant and the Young Child. New York: Academic Press, 1970.

Schaefer, E. S., "Learning From Each Other." Childhood Education, Oct. 1971, pp. 3-7.

Schwartz, B. K., "Easing the Adaptation to Parenthood," International Journal of Family Counseling, 2(2):32-39, 1974.

Skolnick, A. S., The Intimate Environment: Exploring Marriage and the Family. Boston: Little, Brown and Company, 1973.

Skolnick, A. S. and J. H. Skolnick (Eds.), Family in Transition. Boston: Little, Brown and Company, 1971.

Starfield, E. and S. Barkowf, "Physician's Recognition of Complaints made by Parents about their Children's Health." Pediatrics, 43:168-172, 1960.

Stillman, P. L. and D. L. Redfield, "A Program to Teach Child Growth and Development to Medical Students During a Pediatric Clerkship." Arizona Medicine, 34:464, 1977.

Stillman, P. L., J. S. Ruggill, and D. Sabers, "Improved Student Learning of Infant Growth and Development." Pediatrics, 62(5):775-777, 1978.

Stine, O. C., "Content and Methods of Health Supervision by Physicians in Child Health Conferences in Baltimore." American Journal of Public Health, 52:1858-1865, 1962.

Stolz, L. M., Influences on Parent Behavior. Stanford, Calif.: Stanford University Press, 1967.

Thomas, A., S. Chess, and H. G. Birch, Temperament and the Behavior Disorders of Children. New York: New York University Press, 1968.

Thomas, A., S. Chess, and H. G. Birch, "The Origin of Personality." Scientific American, 223(2):102-109, 1970.

Wandersman, L. P. and A. Wandersman, "Parenting Groups to Support the Adjustment to Parenthood. Family Perspectives (in press).

Werner, E. R., R. Adler, R. Robinson, and B. M. Korsch, "Attitudes and Interpersonal Skills During Pediatric Internship." Pediatrics 63(2):491-499, 1979.

White, B. L., "Experience and Environment: Discussion and Conclusions." Growing with Children, Joseph and Laurie Braga (Eds). Englewood Cliffs, New Jersey: Prentice-Hall, 1974.

White, B. L. and J. C. Watts, Experience and Environment, Vol. 1. Englewood Cliffs, New Jersey: Prentice-Hall, 1973.

Yankauer, A., "Child Health Supervision--Is It Worth It?" Pediatrics, 52:272-277, 1973.

# APPENDIXES

# APPENDIX A

# INSTRUMENT

THIS SURVEY IS FOR PARENTS OF YOUNG CHILDREN.

THE DEFINITION OF "PARENTS" INCLUDES NATURAL PARENTS, ADOPTIVE PARENTS, STEP PARENTS AND LEGAL GUARDIANS, AS WELL AS PARENTS SUCH AS RELATIVES OR FOSTER PARENTS WHO ARE FULFILLING THE ROLE OF PARENT FOR THIS CHILD.

IF YOUR RELATIONSHIP TO THIS CHILD FITS THIS DESCRIPTION, WE APPRECIATE YOUR COOPERATION IN THIS SURVEY.

P L E A S E  D O  N O T  P U T  Y O U R  N A M E  O N  T H I S  F O R M !

Dear Parent:

We are asking for a few minutes of your time to answer some questions in order to help pediatricians and their staffs to better meet your needs as parents of young children. If you have any questions, ask for help.

Thanks for your cooperation.

## PART I

1. Please circle one of the six responses to indicate how helpful each of the following sources which you have used in the past have been in gaining knowledge about raising children.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| a. | your parents | (1) | (2) | (3) | (4) | (5) | (N/A) |
| b. | family | (1) | (2) | (3) | (4) | (5) | (N/A) |
| c. | friends | (1) | (2) | (3) | (4) | (5) | (N/A) |
| d. | pediatricians | (1) | (2) | (3) | (4) | (5) | (N/A) |
| e. | other physicians | (1) | (2) | (3) | (4) | (5) | (N/A) |
| f. | teachers | (1) | (2) | (3) | (4) | (5) | (N/A) |
| g. | nurses | (1) | (2) | (3) | (4) | (5) | (N/A) |
| h. | child development specialist | (1) | (2) | (3) | (4) | (5) | (N/A) |
| i. | parent organizations | (1) | (2) | (3) | (4) | (5) | (N/A) |
| j. | social workers | (1) | (2) | (3) | (4) | (5) | (N/A) |
| k. | books | (1) | (2) | (3) | (4) | (5) | (N/A) |
| l. | magazines | (1) | (2) | (3) | (4) | (5) | (N/A) |
| m. | educational classes | (1) | (2) | (3) | (4) | (5) | (N/A) |
| n. | television | (1) | (2) | (3) | (4) | (5) | (N/A) |

2. Please circle one of the six responses to indicate which sources you are using at this time and how helpful each of the following sources <u>are</u> in gaining knowledge about raising children.

| | | | | | | |
|---|---|---|---|---|---|---|
| a. | your parents | (1) | (2) | (3) | (4) | (5) | (N/A) |
| b. | family | (1) | (2) | (3) | (4) | (5) | (N/A) |
| c. | friends | (1) | (2) | (3) | (4) | (5) | (N/A) |
| d. | pediatricians | (1) | (2) | (3) | (4) | (5) | (N/A) |
| e. | other physicians | (1) | (2) | (3) | (4) | (5) | (N/A) |
| f. | teachers | (1) | (2) | (3) | (4) | (5) | (N/A) |
| g. | nurses | (1) | (2) | (3) | (4) | (5) | (N/A) |
| h. | child development specialist | (1) | (2) | (3) | (4) | (5) | (N/A) |
| i. | parent organizations | (1) | (2) | (3) | (4) | (5) | (N/A) |
| j. | social workers | (1) | (2) | (3) | (4) | (5) | (N/A) |
| k. | books | (1) | (2) | (3) | (4) | (5) | (N/A) |
| l. | magazines | (1) | (2) | (3) | (4) | (5) | (N/A) |
| m. | educational classes | (1) | (2) | (3) | (4) | (5) | (N/A) |
| n. | television | (1) | (2) | (3) | (4) | (5) | (N/A) |

3. Listed below are some ways that pediatricians (and staff) can help parents in the rewarding, yet challenging, task of raising children. Please circle a number to indicate how helpful each technique would be to you:

| | (1) Not at all Helpful | (2) Somewhat Helpful | (3) Helpful | (4) Very Helpful | (5) Most Helpful |
|---|---|---|---|---|---|
| * Planned discussions about specific aspects of child development carried out at each well-child visit by the pediatrician | (1) | (2) | (3) | (4) | (5) |
| * Giving educational pamphlets and materials to parents | (1) | (2) | (3) | (4) | (5) |
| * Suggesting books parents could read | (1) | (2) | (3) | (4) | (5) |
| * Maintaining a lending library | (1) | (2) | (3) | (4) | (5) |
| * Use of audiovisual materials (movies, filmstrips, etc.) | (1) | (2) | (3) | (4) | (5) |
| * Bulletin board displays in waiting room | (1) | (2) | (3) | (4) | (5) |
| * Scheduling extra visits for new parents or those with concerns or problems | (1) | (2) | (3) | (4) | (5) |
| * Having a call hour (1 hour a day) during which parents are encouraged to call in with specific questions | (1) | (2) | (3) | (4) | (5) |
| * Conducting group teaching sessions with parents | (1) | (2) | (3) | (4) | (5) |
| * Utilizing mental health professionals such as social workers or psychologists to help parents with complex problems | (1) | (2) | (3) | (4) | (5) |
| * Planned discussions about specific aspects of child development carried out at each well-child visit by a nurse | (1) | (2) | (3) | (4) | (5) |
| *Having a trained person in the waiting room to consult with about child-rearing questions while waiting for doctor's appointment | (1) | (2) | (3) | (4) | (5) |
| * A 9 a.m. to 5 p.m. telephone service available for parents with specific questions or problems | (1) | (2) | (3) | (4) | (5) |
| * Planned discussions about specific aspects of child development carried out at each well-child visit by a specialist trained in child development | (1) | (2) | (3) | (4) | (5) |

4. If a class on how to raise children were sponsored by your pediatrician, would you attend?

_____ yes

_____ no

5. If your pediatrician could give you all the time you needed today, what questions about raising your child would you like to talk to him/her about?

PART II

PLEASE PLACE AN "X" IN FRONT OF THE APPROPRIATE RESPONSES THAT ANSWER THE FOLLOWING QUESTIONS ABOUT YOURSELF.

6. Sex

[ ] a. Female

[ ] b. Male

7. Your Age Group

[ ] a. Younger than 20 years

[ ] b. 20 - 25 years

[ ] c. 26 - 30 years

[ ] d. 31 - 35 years

[ ] e. 36 - 40 years

[ ] f. 41 - 49 years

[ ] g. 50 years or over

8. Your Relationship to Child You Are Bringing to the Doctor

[ ] a. Natural parent

[ ] b. Step parent

[ ] c. Legal guardian or foster parent

[ ] d. Grandparent

[ ] e. Other relative (Specify) _____

[ ] f. Other (Specify) _____

9. Education (Check Highest Level Completed)

[ ] a. Grade school

[ ] b. Junior high school

[ ] c. High school

[ ] d. Vocational/Technical school (non-college training beyond high school

[ ] e. Some college

[ ] f. College degree

[ ] g. Advanced degree (Specify) _____

10. Present Marital Status

[ ] a. Never married (single)

[ ] b. Married/living with spouse

[ ] c. Married/Separated

[ ] d. Divorced

[ ] e. Widowed

11. How many children do you have? Indicate age and sex (circle the correct response: M=Male, F=Female) by filling in the chart below.

| | 1st child | | 2nd | | 3rd | | 4th | | 5th | | 6th | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Age | | | | | | | | | | | | |
| Sex | M | F | M | F | M | F | M | F | M | F | M | F |

12. How many brothers and sisters do you have? Starting with the oldest, indicate age and sex. (Include yourself in this chart.) If a person is deceased, please indicate by circling age.

| | 1st born | | 2nd | | 3rd | | 4th | | 5th | | 6th | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Age | | | | | | | | | | | | |
| Sex | M | F | M | F | M | F | M | F | M | F | M | F |

13. What was your family's approximate total income last year?

[ ] a. $ 8,000 and below

[ ] b. $ 8,100 - $18,000

[ ] c. $18,100 - $28,000

[ ] d. $28,100 - $38,000

[ ] e. $38,100 and over

14. Occupation

Your Occupation (Title or job description)

_____

Spouse's Occupation (if applicable)

_____

PART III

UNIVERSITY OF ROCHESTER PARENT EDUCATION STUDY

CHILD DEVELOPMENT QUESTIONNAIRE

Following are some questions about how children develop. Answer every question as best you can. If you don't understand a question, ask for help. Thanks for your cooperation.

1. At what age do babies generally cry the most during a 24 hour period? (CHECK ONE ANSWER)

   _____ a) At birth

   _____ b) 2 weeks of age

   _____ c) 4 weeks of age

   _____ d) 6 weeks of age

   _____ e) 10 weeks of age

   _____ f) 4 months of age

   _____ g) 6 months of age

   _____ h) None of the above

2. Some possible reasons a four year old boy might be very active and have a short attention span are: (CHECK ALL CORRECT ANSWERS)

   _____ a) He has brain damage

   _____ b) He has an emotional problem

   _____ c) It's part of a normal personality pattern

_____ d) There are family problems causing tension in the home

_____ e) All of the above

_____ f) None of the above

3. Which of the following ways are most likely to help a child become less shy in new situations? (CHECK ALL CORRECT ANSWERS)

_____ a) Avoid new situations until he's older

_____ b) Make him participate whether he wants to or not

_____ c) Continue to expose him to new situations but don't push participation

_____ d) Shame him into it

_____ e) Praise any signs of participation no matter how slight

_____ f) All of the above

_____ g) None of the above

4. Children are born with a fixed amount of intelligence that the parents can't change as the child grows older.

_____ True

_____ False

5. When a four year old child talks back and acts fresh it is generally necessary to slap his face or wash his mouth out with soap to prevent later problems.

_____ True

_____ False

6. Special toys and equipment are needed to help a young child develop his or her ability to learn.

_____ True

_____ False

7. Many normal babies under three months of age develop a fussy time in the late afternoon or evening when they may cry and fuss for an hour or two.

_____ True

_____ False

8. Some babies need to be fed by the clock because it is hard to tell when they are really hungry.

_____ True

_____ False

9. Four year old children are not growing as fast as one year old children.

_____ True

_____ False

10. If the speech of a four year old child is difficult to understand by others, he should be checked out by a speech specialist.

_____ True

_____ False

11. If a three year old is constantly so afraid of the dark she won't go to bed at night, and so afraid of dogs she won't go outside during the day, she probably has an emotional problem that needs psychiatric attention.

_____ True

_____ False

12. If a young child reacts to frustration with a screaming temper tantrum he is usually more upset than a child who reacts by going off to pout in a corner.

_____ True

_____ False

13. The most important thing a day care center can do for a child is to provide a place to stay that is clean and safe.

_____ True

_____ False

14. It is normal for some babies to spit out almost every new food until they get used to it.

_____ True

_____ False

15. If a nine month old boy cries every time mother leaves the room, he has generally been spoiled from too much attention.

_____ True

_____ False

16. If a two year old boy plays with dolls and won't fight back when attacked by others, he will probably grow up to be a sissy unless the parents do something about it.

_____ True

_____ False

17. A friendly-outgoing child is almost always made that way by good child rearing techniques.

_____ True

_____ False

18. If a child is allowed to play with his or her sex organs at age two, he or she is likely to be oversexed when older.

_____ True

_____ False

19. The only good way to develop a young child's intelligence is to drill him daily on learning letters, numbers, and things like that.

_____ True

_____ False

20. Talking back to parents and acting "smart" is typical behavior for four year olds.

_____ True

_____ False

21. Children who are seldom spanked almost always grow up to be spoiled brats.

_____ True

_____ False

22. If a two year old has temper tantrums and acts stubborn, it is almost always because of poor training by parents.

_____ True

_____ False

23. Pressuring a child to learn against his will can lead to school problems later on.

_____ True

_____ False

24. If a child adapts easily to new situations, it is almost always because of good child rearing methods used by the parents.

_____ True

_____ False

25. Most boys are not ready to be toilet trained until which of the following age periods? (CHECK ONE ANSWER)

_____ a) 9-13 months

_____ b) 14-17 months

_____ c) 18-24 months

_____ d) 25-30 months

_____ e) 31-36 months

26. If a four year old child shows interest in learning to read, it is usually better to wait until she is older before doing anything about it.

_____ True

_____ False

27. If a two year old child resists sitting on the potty, which of the following would be the best way to avoid toilet training problems? (CHECK ONE ANSWER)

_____ a) Let him get up without comment and try again later that day or the next

_____ b) Forget about toilet training for 6 months and then try again

_____ c) Hold him on the potty with a strap until he goes

_____ d) Spank or scold him if he tries to get up without going

_____ e) Try to make him sit on longer by reading books or playing games

28. Some children are more difficult to bring up than others because of difference in temperament.

_____ True

_____ False

29. Most three year olds can tell the difference between a make-believe story on television and a true one.

_____ True

_____ False

30. Reading stories and talking about them with a two year old child for 15 or 20 minutes a day can help that child's language development and his or her ability to learn.

_____ True

_____ False

31. If a two year old hits other children, he should not be allowed to play with them until he's older.

_____ True

_____ False

32. Many normal four year old children wet their bed at least two or three times a month.

_____ True

_____ False

33. Children who have been talked to, read to, and taken on interesting trips as preschoolers generally do better in school than children who have not had these experiences.

_____ True

_____ False

34. If a child tends to be shy and upset by new situations, it almost always means he or she has an emotional problem.

_____ True

_____ False

35. If a two year old child throws himself on the floor and screams when he doesn't get his way, which of the following would be the best way to avoid future tantrums? (CHECK ONE ANSWER)

_____ a) Ignore him

_____ b) Spank his bottom

_____ c) Let him have his way

_____ d) Hold and cuddle him

_____ e) Offer a new toy to distract him

36. A quiet baby does not need to be held as much as a baby who cries a lot.

_____ True

_____ False

37. Talking baby-talk to a nine month old child is harmful and should never be done.

_____ True

_____ False

38. To avoid eating problems later on, parents of young children should make them stay at the table until they finish whatever is put on their plate.

_____ True

_____ False

39. The basic principle behind "behavior modification" is to ignore "bad" behaviors and reward "good" behaviors.

_____ True

_____ False

40. If a baby is fussy much of the day, it is almost always because of poor care by the mother.

_____ True

_____ False

41. If a small baby hiccoughs or spits up after a feeding, it usually means he or she needs a different kind of milk.

_____ True

_____ False

42. If a two week old baby strains and gets red in the face when having a bowel movement, she generally needs a laxative.

_____ True

_____ False

43. It is normal for young children to run high temperature of 103° or 104° with illnesses that are not serious.

_____ True

_____ False

44. It is normal for many toddlers 16-18 months of age to look flat-footed.

_____ True

_____ False

45. At what age are young children most likely to need extra amounts of Vitamin C and D added to their diets? (CHECK ONE ANSWER)

_____ a) 0 to 1 year

_____ b) 1 to 2 years

_____ c) 2 to 3 years

_____ d) 3 to 4 years

_____ e) 4 to 5 years

_____ f) All of these

_____ g) None of these

# APPENDIX B

## LETTER OF REQUEST

## TO CHAMBERLIN

*Oklahoma State University*

DEPARTMENT OF FAMILY RELATIONS
AND CHILD DEVELOPMENT

STILLWATER, OKLAHOMA 74074
241 HOME ECONOMICS WEST
(405) 624-5057

May 7, 1981

Dr. Robert W. Chamberlin
Associate Professor
Department of Pediatrics
University of Rochester
School of Medicine and Dentistry
601 Elmwood Avenue
Rochester, NY 14642

Dear Dr. Chamberlin:

We are beginning a research project related to the educational role of the pediatric practice for improving parenting skills. Your paper, "An Evaluation of Efforts to Educate Mothers about Child Development in Pediatric Office Practices," American Journal Public Health, September 1979, has been very helpful to us. We are writing to request a copy of the 45 item Mother Knowledge of Child Development questionnaire and the child behavior checklist on which mothers rated child behavior and indicated concerns.

Since we hope to begin this summer, we would appreciate your earliest possible reply. Thank you in advance for your help with this important project.

Sincerely,

Judith A. Powell
Associate Professor
Child Development

Yolanda McCune
Graduate Research Assistant

# APPENDIX C

## CONTENTS OF SURPRISE BOX

## SURPRISE BOX

### Description of Contents

Plastic Tubs (5-12" x 18")

Puzzles for different ages (4)

Goldfish inside a sealed plastic pop container

Snap Accordian Clackers

Take-apart Animals (4)

Infant Soft Rubber Airplane and Car

Stacking Rings (2 sets)

Caterpillar Pull Toy

Small Child-proof Flashlight

Books for different ages (5)

Puppets; 1 "Rocky" raccoon, 5 duck finger pockets, 1 "Cookie Monster"

Plastic-coated pictures (4) Example: children in sand box, parent reading a story, child at doctor's office

### Equipment for Infants

Infant Seat

Infant Swing

Walker

Diapers (cloth) for face cloths

Mirror (plastic 2 1/2' x 3 1/2')

Zephran Chloride (disinfectant)

Paper Towels and Kleenex Tissues

# APPENDIX D

## ANALYSIS OF VARIANCE FOR DIFFERENCES BETWEEN GROUPS AND DEMOGRAPHIC VARIABLES AND PARENTS' KNOWLEDGE OF CHILD DEVELOPMENT

ANALYSIS OF VARIANCE FOR DIFFERENCES BETWEEN GROUPS AND DEMOGRAPHIC VARIABLES AND PARENTS' KNOWLEDGE OF CHILD DEVELOPMENT

| Demograhpic Variables | N | Mean Scores on Child Development Test | F-Ratio | Probability |
|---|---|---|---|---|
| Sex | | | | |
| Male | 200 | 30.98 | 6.85 | .01 |
| Female | 300 | 28.43 | | |
| Age | | | | |
| Less than 20 years | 10 | 24.60 | | |
| 20 to 25 years | 51 | 28.18 | | |
| 26 to 30 years | 70 | 31.86 | 8.67 | .000 |
| 31 to 35 years | 62 | 32.26 | | |
| 36 to 40 years | 24 | 30.79 | | |
| 41 years and over | 13 | 30.54 | | |
| Education | | | | |
| Junior High or less | 11 | 26.00 | | |
| High School | 71 | 28.13 | | |
| Vo-Tech | 23 | 30.00 | 15.10 | .000 |
| Some College | 73 | 31.45 | | |
| College Degree | 39 | 33.67 | | |
| Advanced Degree | 13 | 35.92 | | |
| Number of Children | | | | |
| One child | 78 | 30.23 | | |
| Two children | 91 | 31.03 | .531 | .66 |
| Three children | 41 | 31.10 | | N.S. |
| Four children or more | 18 | 30.11 | | |
| Family Stage | | | | |
| Infant | 61 | 30.07 | | |
| Pre-school | 52 | 29.65 | | |
| School-age | 80 | 31.91 | 2.06 | .08 |
| Adolescent | 27 | 30.33 | | N.S. |
| Launching | 10 | 30.10 | | |
| Parents' Siblings | | | | |
| One sibling | 19 | 30.05 | | |
| Two siblings | 34 | 30.50 | | |
| Three siblings | 56 | 31.23 | 1.83 | .08 |
| Four siblings | 49 | 31.88 | | N.S. |
| Five siblings | 23 | 30.13 | | |
| Six siblings | 23 | 28.13 | | |
| Seven or more siblings | 24 | 30.83 | | |

ANALYSIS OF VARIANCE FOR DIFFERENCES BETWEEN GROUPS AND DEMOGRAPHIC VARIABLES AND PARENTS' KNOWLEDGE OF CHILD DEVELOPMENT

(continued)

| Demograhpic Variables | N | Mean Scores on Child Development Test | F-Ratio | Probability |
|---|---|---|---|---|
| Birth Order | | | | |
| Oldest | 68 | 31.03 | | |
| Middle | 78 | 30.82 | .44 | .72 |
| Youngest | 61 | 30.16 | | |
| Only | 19 | 30.05 | | |
| Income | | | | |
| $ 8,000 or less | 25 | 27.60 | | |
| $ 8,000 - 18,000 | 62 | 28.92 | | |
| $18,100 - 28,000 | 65 | 31.92 | 8.38 | .000 |
| $28,100 - 38,000 | 50 | 31.92 | | |
| $38,100 and over | 24 | 30.08 | | |

# VITA

Yolanda Jane Dobbs McCune

Candidate for the Degree of

Master of Science

Thesis: PARENTS' KNOWLEDGE OF CHILD DEVELOPMENT: IMPLICATIONS FOR PEDIATRIC PRACTICE

Major Field: Family Relations and Child Development

Biographical:

Personal Data: Born in Ft. Collins, Colorado, November 30, 1952, the daughter of O. W. and Avis Dobbs. Married Gary Lisle McCune, January 8, 1972. Mother of three sons: Tyran, Tekon, and Trayton.

Education: Graduated from Vian High School, Vian, Oklahoma, in May, 1970; received Bachelor of Science degree in Vocational Home Economics Education from Oklahoma State University in 1974; completed the requirements for Master of Science degree at Oklahoma State University in December, 1982.

Professional Experience: Vocational Home Economics teacher, Vian High School, 1974-75; Home Economist in Adult Education, Cherokee Nation, 1975-76; Vocational Home Economics teacher, Gore High School, 1976; Consultant for pediatric residents' research and curriculum development, Tulsa Ambulatory Pediatric Clinic, 1982.