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AN EXPLORATION OF THE RELATIONSHIP  
BETWEEN ADOLESCENT ADJUSTMENT TO DIABETES MELLITUS  
AND PARENT-CHILD RELATIONSHIP PROBLEMS

by

Ann M. Demos

A thesis

submitted in partial fulfillment  
of the requirements for the degree of  
Master of Science, Major in Nursing  
South Dakota State University

1983

AN EXPLORATION OF THE RELATIONSHIP  
BETWEEN ADOLESCENT ADJUSTMENT TO DIABETES MELLITUS  
AND PARENT-CHILD RELATIONSHIP PROBLEMS

This thesis is approved as a creditable and independent investigation by a candidate for the degree, Master of Science, and is acceptable for meeting the thesis requirements for this degree. Acceptance of this thesis does not imply that the conclusions reached by the candidate are necessarily the conclusions of the major department.

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Thesis Advisor

Title: AN EXPLORATION OF THE RELATIONSHIP BETWEEN ADOLESCENT ADJUSTMENT TO DIABETES MELLITUS AND PARENT-CHILD RELATIONSHIP PROBLEMS

Student: Ann M. Demos

Type of Study Project X Thesis

Area of Focus of Study

X education  
clinical practice  
patient care management  
other

Abstract (approximately 150 words)

The focus of this study is on adolescents who have diabetes mellitus and their adjustment to that disease. This study explores the relationship between adolescent adjustment to diabetes mellitus and the parent-child relationship.

Erik Erikson's Theory of Cognitive Development served as the theoretical framework for the study.

The study utilized descriptive methodology. Data was collected using Child's Attitude Toward Mother Scale and Child's Attitude Toward Father Scale, the Diabetic Adjustment Scale, and a researcher developed structured interview. The study population was ten families each with a diabetic adolescent for the study. Individual case scores and correlation statistics were used to describe the data. A limitation of the study was use of a small, non-random sample.

Results of the study indicated that if the adolescent experienced problems adjusting to diabetes mellitus, as measured by a score on the Diabetic Adjustment Scale, there were problems in the adolescent's relationship with his or her parent.

I give my permission to the College of Nursing, SDSU to publish this abstract in a collection of abstracts from master's projects and theses.

Signature

Date October 28, 1983

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## ACKNOWLEDGEMENTS

To my husband, Peter T. Demos, who was my consultant, first editor and friend throughout this study;

To my parents, John E. and Olga D. Murphy, whose constant faith and confidence always made me feel any goal or accomplishment could easily be mine;

To Dr. Evelyn T. Peterson, my mentor throughout the duration of my graduate study.

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Determination of Research Involvement  
With Human Subjects  
Graduate Program  
College of Nursing  
South Dakota State University

Definition of Human Subjects

This term describes any individual who may be at risk as a consequence of participation as a subject in research, development, or related activities. Subjects may include patients; outpatients; donors of organs, tissues and services; and normal individuals, including students or others who are placed at risk during training in medical, psychological, sociological, educational, and other types of activities. Of particular concern and meriting special consideration are those subjects in groups with limited civil freedom. These include prisoners and residents of clients of institutions for the mentally ill and mentally retarded. Minors are also of particular concern. The unborn and the dead will be considered subjects only under conditions and to the extent permitted by law and regulation.

The proposed master's research project/thesis titled  
AN EXPLORATION OF THE RELATIONSHIP BETWEEN ADOLESCENT ADJUSTMENT  
TO DIABETES MELLITUS AND PARENT-CHILD RELATIONSHIP PROBLEMS

has been discussed regarding whether it involves human subjects. We  
(advisor and student) have determined that

A. (Check one)

Human subjects are not involved because

X Human subjects are involved because subjects of study are adolescents who are patients of a private physician. The private physician, the adolescent and parents have given consent to the study.

B. (Check one)

X The student will initiate contact with the University Human Subjects Committee and proceed according to established University guidelines. Study approved through and by Dean Sword, Human Subjects Committee Chairman.  
The student need not forward his/her proposal to the Human Subjects Committee.

Signature: Student

Signature: Project/Thesis Advisor

Date: August 30, 1982

Date: August 30, 1982

cc: Advisor  
Student  
Dean of Nursing's Office  
Graduate Program Office



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## CHAPTER 1

### Introduction

The focus of this study is on adolescents who have diabetes mellitus, their adjustment to that disease and their relationship with their parents. Surveys indicate that seven to ten percent of American/British children under eighteen years of age have a chronic physical illness. For any child with a chronic illness there are necessary changes in life style if that child is to adjust positively to the disease and accomplish normal growth and development. For the chronically ill adolescent, the necessary adjustments coincide with that period in the child's life when he or she develops into an adult. The problems arising during this period for adolescents with diabetes mellitus and their parents suggest a need for investigation into adjustments made by adolescents and the quality of their relationships with their parents.

Chronic illness, whether physical or mental, has a profound psychological effect on the affected individuals and their families.<sup>(3)</sup> Research related to the effect of chronic illness on families presents an array of adjustment problems, patterns, and effects: isolation/withdrawal,<sup>(2-8)</sup> sick-role behaviors,<sup>(4,5,7,9)</sup> self-concept<sup>(8,10,11,12)</sup> and reorganization/changes.<sup>(5,6,7,8,12)</sup> Bruhn states that the presence of a child with diabetes mellitus in a family has

been associated with lower marital integration and greater conflict between parents.<sup>(5)</sup> Preservation and nurturance of vital family relationships in situations where children have a chronic disease is essential for the promotion of healthy family functioning and for the provision of adequate care for the adolescent with the chronic condition.

### Statement of the Problem

This study explores the relationship between adolescent adjustment to diabetes mellitus and the parent-child relationships.

### Research Questions

1. How does the parent-child relationship reported by the Child's Attitude Toward Mother and Child's Attitude Toward Father Scales relate to the adolescent's adjustment to diabetes mellitus as measured by a score on the Diabetic Adjustment Scale?

2. What are the parents' perceptions of their relationship with their adolescents with diabetes mellitus?

### Significance of the Problem

Because of the complex interplay of the physical and psychosocial developmental changes during adolescence, health management of adolescents with diabetes mellitus poses unique problems for nursing and for other health practitioners. Strict adherence to the medical regimen for adolescents with diabetes mellitus is essential to prevent

later physical complications. The normal adolescent concerns about dependence/independence, body image, peer approval and acceptance, challenge the restrictive nature of the medical regimen for diabetes mellitus. A positive adjustment to the demands of both adolescence and diabetes mellitus is essential for healthy development.<sup>(2)</sup>

Nursing is concerned with assisting the adaptation of individuals and families at all points of life. The role of the nurse in the evaluation and management of the adolescent is recognizing and helping with the psychological and developmental adjustments. The nurse in his or her professional role can assist adolescents with chronic disease to gain a sense of competence and self-esteem, and can help the adolescent and the family to feel in control of their lives.<sup>(17)</sup>

If adolescent and family adjustment problems are to be prevented, intervention must begin before maladjustment problems are firmly established. Problems of chronically ill adolescents and their families need to be identified. By exploring the adolescent's adjustment to diabetes mellitus and the problems in their relationship with their parents, variables may be identified which affect adolescent adjustment to chronic illness. This study focuses on the adolescent with diabetes mellitus and his/her relationship with parents.

#### Definition of Concepts

Diabetes Mellitus - A chronic disease in which the

basic defect is an absolute or relative lack of insulin. The adolescents in this study have been ketosis-prone at least one year.

Adolescence - Theoretically defined as the period from childhood to adulthood. In this study the adolescent is a person aged sixteen through eighteen years.

Adjustment to Diabetes Mellitus - Adaptation of adolescents with diabetes mellitus measured by a score on the Sullivan Diabetic Adjustment Scale.<sup>(1,19)</sup> The questions on the scale elicit information on adjustment to peers, attitudes toward diabetes mellitus and body, family relationships, adjustment to school, and dependence/independence conflicts.

Parent-Child Relationship - Assessment of the parent-child relationship as measured by two short form scales "Child's Attitude Toward Mother," and "Child's Attitude Toward Father" Scales. These scales measure the magnitude of problems children have in their relationships with their parents.

### Theoretical Framework

Erik Erikson, a developmental theorist, divides psychosocial development into eight stages. During the adolescent stage, the individual passes through an identity crisis, a milestone in the personality development. The crisis consists of a positive pole, identity, and a negative pole, identity diffusion. When children reach adolescence, they have a conception of their abilities and limits, as well as

their social position. Upon this base the adolescents must build their sexual, occupational, and adult roles. To succeed, the individual needs help from the environment which provides him or her with positive identification. If unsuccessful in getting this help, the result for the adolescent is identity diffusion and development of maladaptive behavior patterns.

In a society where independence, self-sufficiency, and marriage are highly valued, young diabetics may anticipate falling short of these goals because of their illness. If the diabetic children view themselves as sick, adjustments to puberty and relationships with peers will create anxiety.<sup>(5)</sup>

The many challenging, painful and complex problems of chronic illness are intensified during adolescence because of rapid physical growth and the many developmental changes that occur. The more traditional approaches to chronic illness predicated on a disease or an organ system model have not been helpful in dealing with adolescents.<sup>(20)</sup>

Erikson's developmental approach is an appropriate framework for this study. This developmental perspective allows the incorporation of medical, psychological, social and family concepts in the study of chronically ill adolescents.

## CHAPTER 2

### Review of the Literature

The selected review of literature includes diabetes mellitus and the adolescent; and chronic disease and the family.

#### Diabetes Mellitus and the Adolescent

The literature indicates that the adaptation to chronic illness is greatly affected by the developmental stage of the individual.<sup>(6,8,9,10)</sup> For the adolescent, chronic illness imposes limitations that heighten the problems of identity formation and may evoke a response of forceful rebellion.<sup>(8)</sup> The psychological problems of adolescents with chronic illness may lead to social disability which is far more serious than the direct effects of their physical ailments.<sup>(10)</sup> Among the developmental tasks that face adolescents in the American culture are achieving independence, making peer and sexual adjustments, choosing a course of education and vocation, and developing a workable set of personal and social values. Chronic illness, such as diabetes mellitus, forces alterations in self-concept and body image.<sup>(8,10,11,12)</sup> Adolescents worry about the effect their disease will have on their social and sexual acceptability.<sup>(10)</sup> The chronically ill teenager may employ a variety of mental defense maneuvers that are contrary to

normal developmental goals in an attempt to handle the anxiety that the illness may pose.

Zeltzer, et al., measured adolescent perceptions of the impact of illness on healthy adolescents and diseased adolescents (including some with diabetes mellitus) and found that total impact of illness did not differ among the respondents.<sup>(21)</sup> In this study, Zeltzer et al., notes the essentially healthy psychological status of chronically ill adolescents and the generally hopeful and positive quality of client responses. Kellerman, et al., used standardized measures of trait anxiety, self-esteem, and health locus of control to measure psychological effects of illness in adolescents.<sup>(22)</sup> The data are interpreted as casting doubt on the supposition that chronic or serious disease inevitably leads to psychopathic results in adolescents. Sterky interviewed diabetic and healthy children and was unable to demonstrate an increased frequency of "mental disturbances" in the diabetic children.<sup>(23)</sup> Sterky found anxiety symptoms more frequently among mothers of diabetics. Greydanus and Hofmann acknowledge that attitudes and reactions of the parents can have a decisive effect on the child's adaptation to this disease.<sup>(17)</sup>

Studies indicate that there is a resiliency in coping by chronically ill adolescents. Zeltzer, et al., suggest that healthy adolescents have not needed to develop stable coping mechanisms and may thus be poorly equipped to deal



with occasional stressful situations.<sup>(21)</sup> When developing the Diabetic Adjustment Scale (DAS), Sullivan reported that the initial attempt at measuring adjustment to diabetes mellitus produced data that indicated the group of 105 adolescent juvenile diabetic girls was relatively well adjusted and that their attitudes toward diabetes mellitus correlated positively with many adjustment factors.<sup>(1)</sup> The final results suggested that this group of subjects was relatively well adjusted; that attitude toward diabetes mellitus is an important factor to consider in the assessment of overall life adjustment; that diabetes mellitus may serve as a scapegoat for normal adolescent concerns; and that depression in adolescents who have diabetes mellitus may be covertly expressed through concerns about diabetes mellitus and its management.

Using Rorschach content categories, McGraw and Tuma studied the differences between juvenile diabetic (ages 8-16) and non-diabetic children. When total responses and examiner effects were controlled, there were no differences between diabetic children and controls on Rorschach content categories of anxiety, hostility, or impaired body image.<sup>(24)</sup> Simonds examined the psychiatric status of diabetic children and adolescents to identify the differences between those in poor and those in good diabetic control and to clarify whether age, sex, and duration of illness were significant variables.<sup>(2)</sup> The frequency of psychiatric diagnoses (7½%)

for the entire group was not higher than reported serious psychiatric disorders in the normal population.

In contrast, a study comparing fifty diabetic juveniles with fifty normal juveniles found significantly more emotional disturbances and poorer social adjustment in the diabetic group.<sup>(25)</sup> Sayed and Leaverton used the "Kinetic-Family-Drawing" to study 52 children with diabetes mellitus and delineated environmental factors such as familial emotional stress of diabetic children. An equal number of otherwise normal children were matched with the control group by age, sex, and race. The young people with diabetes mellitus showed in their drawings more examples of isolation.<sup>(26)</sup>

Grey, et al., explored in 20 diabetic children the relationships between psychosocial adjustment, family functioning, self-esteem, and diabetic control. The data suggest that psychosocial adjustment problems frequently occur and are associated with poorer medical control.<sup>(16)</sup>

Koski evaluated 60 diabetic children and 60 non-diabetic controls and reported that diabetic children with poor medical control had personalities that were "less integrated, less imaginative and less sensitive."<sup>(28)</sup> Similarly, Leaverton concluded that a person with poorly controlled diabetes mellitus is at risk for serious psychiatric disturbances.<sup>(29)</sup> Even though Sullivan, in the development of the Diabetic Adjustment Scale (DAS), found that

adolescent girls with diabetes mellitus were relatively well adjusted, more than normal depression was noted.<sup>(1)</sup> These studies indicate that diabetes mellitus can complicate psychological development of the adolescent. Results of investigations of the influence on the personality of such variables as age of onset, duration of disease, psychiatric disturbance, degree of control, etc., are contradictory.

Greydanus and Hofmann reviewed the literature of the past 100 years concerning psychological factors in diabetic adolescents.<sup>(17)</sup> They concluded that studies could not be compared because methods were not uniform and results were based on subjective data. Fallstrom reached much the same conclusion in studying the personality structure of school children with diabetes mellitus.<sup>(27)</sup>

The literature on psychosocial aspects of diabetes mellitus and its effects on children and adolescents is contradictory. Fallstrom states that in many investigations only one research technique was used and that the use of different techniques may have resulted in the contradictory results.<sup>(27)</sup> Review of the literature indicates that diabetes mellitus may contribute to emotional problems in some children, who may have developed emotional problems had they not had chronic disease. Among studies reviewed, discrepancies exist as to adjustment problems in children with diabetes mellitus, and especially adolescents.

### Chronic Illness and the Family

The literature reviewed concerning chronically ill adolescents recognizes the disruptive factor to ego function for these individuals and their families. Elements identified as being involved in chronic illness include: 1) remissions and exacerbations; 2) permanent alteration in lifestyle; 3) changes in work organization; and 4) alterations in degree of responsibility attributed to each family member.<sup>(30)</sup> The reaction of the family to a chronic illness depends on composition of the family, presence of significant others, cultural background and education of family members, stage of family development, and the health-belief model adopted by the family.<sup>(7)</sup>

Jelnek asserts that health personality development in the chronically-ill adolescent depends to a great extent upon the parents' acceptance of the child's disability and their understanding of its possible impact on other members of the family.<sup>(10)</sup>

Lawson developed a scale for detecting families at risk of adapting poorly to a child's chronic illness.<sup>(6)</sup> Lawson states that parents who successfully adjust to a chronically ill child in the home enforce necessary and realistic restrictions on the child and encourage self-care, school attendance, and association with peers. Such an adjustment is influenced by the developmental level of the family, its coping techniques, the quality of the parent-child

relationship, and the family's acceptance of the handicapped member.

A family with a chronically diseased adolescent must face the same difficulties as healthy families. The illness can provide a specific type of "solution" for the problems of each family member, at the same time it can impose a load on the family.<sup>(4)</sup> Many researchers describe this phenomenon, the sick role in illness, as a deviant behavior.<sup>(4,5,7,9)</sup>

After the initial family adaptation to chronically ill child, reassignment of roles within the family begins.<sup>(7)</sup> Influence and power may shift as a consequence of the disease.

"The wife or mother who controls the diet for the person in the family with diabetes mellitus gains new importance and status. The diabetic who has previously been a weak member of the household frequently gains new power and influence and may place unreasonable demands on the family unit, almost invariably creating anger or conflict within the family.... Likewise, the person with diabetes mellitus may use the family's emotional disarray to shift the focus of control for his illness away from himself and onto other family members." (7)

Roles must be changed and reallocated in ways which minimize a sense of personal loss and prevent the ill adolescent's social and psychological withdrawal from the family.<sup>(5)</sup> The needs and desires of siblings are frequently ignored when the focus of attention shifts to the ill

child.<sup>(8)</sup> For the child, the sick role can provide escape from the obligations of growing up, and he/she gains concern, care, and close comfort, that gives him an advantage over his siblings.<sup>(4)</sup> In the process, the family equilibrium is disturbed.

The presence of an adolescent with diabetes mellitus in a family will increase economic pressures, silently raising family tensions.<sup>(6,7)</sup> The adolescent with diabetes mellitus by virtue of health complications or misinformation may force social isolation or withdrawal on the family.<sup>(5,6,7,8)</sup> This contributes to family tension by preventing diffusion of anxiety outside the family unit and thereby prohibiting support by other social systems. Lavenstein suggests that shame is an important factor in bringing about social withdrawal, and it may become linked to the guilt reactions already provoked in individuals as a consequence of assumed responsibility for the illness.<sup>(4)</sup>

The family influence on the diabetic has been explored by many researchers. Wishner and O'Brien state that lack of health care information commonly has negative family influence on the diabetic child, and that this condition is readily correctable. Many well meaning families suffer from misinformation or total lack of information regarding diabetes mellitus and its complications.<sup>(7)</sup>

Overprotection is also documented as a common problem.<sup>(6,7)</sup> Fear, guilt, or other family dynamics may subject

the diabetic member to various restrictions which are ultimately detrimental to growth and development of the individual's personality and enhancement of familial relationships. Wishner and O'Brien cite as the most serious example of this are parents who refuse to allow their child with diabetes mellitus to give themselves the daily insulin injection.

It is not just the adolescent with chronic disease who is adversely affected. The rate of breakdown of the family unit is high. (5,6,7,8,9,30) Having children with chronic illness in families tends to cause chain-reaction-like responses, such as those previously described, where the ultimate catastrophe may be the break-up of the family. (11)

The literature includes studies of families with diabetic children through eighteen years of age as well as a few studies exclusively on diabetic adolescents. The writer found disagreements among researchers concerning the effect of diabetes mellitus on adolescents and family relationships.

## CHAPTER 3

### Methodology

This exploratory field study, using three instruments, systematically examines relationships between adjustment to diabetes mellitus by adolescents and the magnitude of problems within the parent-child relationships. Exploratory field studies, examining the practices, behaviors, attitudes, and characteristics of individuals or existing groups as they function in real life, are typically conducted in the early stages of investigations of a problem. Such studies attempt to identify and understand relationships rather than predict them.<sup>(32)</sup>

#### Diabetic Adjustment Scale (DAS)

The Diabetic Adjustment Scale (DAS) was developed by Barbara Jean Sullivan.<sup>(1,19)</sup> It is a fifty item scale designed to assess life adjustment by adolescents with diabetes mellitus (Appendix B). The adjustment areas are: dependence/independence, school adjustment, family relationships, peer adjustment, and attitude toward diabetes mellitus and body. The following are a few sample statements taken directly from the tool: respondents were instructed to circle the number beside the statement that best indicated how they felt (5-always, 4-most of the time, 3-sometimes, 2-once in a while, 1-never, and x-does not



apply), e.g. "I control my diabetes mellitus myself," "I think I would enjoy school more if I didn't have diabetes mellitus," "I wish I could run away." Overall, a total score of 50 points indicates the highest adjustment, while a total score of 250 points indicates a low adjustment. Scores of 50 to 116 points indicate good adjustment, 117 to 183 points fair adjustment, 184 to 250 points poor adjustment.

Child's Attitude Toward Mother (CAM) and Child's Attitude Toward Father (CAF) Scales

These short form scales measure the degree or magnitude of problems children have in their relationships with their parents. The scales were designed by Hudson for use in research and in clinical settings to monitor and evaluate through repeated administrations of the test, the client's response to treatment. Both scales have a reliability in excess of .90 as well as good discriminant and construct validity, and both have been used in clinical practice where they were found to be important adjuncts to the conduct and the evaluation of treatment.<sup>(33)</sup>

The CAM and CAF Scales are constructed as 25-item summated category partition scales. For both scales, nine of the items are positively worded statements about the parent-child relationship, and sixteen are negatively worded statements. All items are randomly ordered within the scales except that the ordering of the items is

identical for the two scales; the only difference between the two scales is the substitution of the word "mother" or "father" on the appropriate scale. Neither scale was designed as a multidimensional measure of parent-child relationship problems. Each was designed to provide only a single-dimensional characterization of the degree or magnitude of parent-child relationship disorders.

An appropriate cutting point for each of the scales was determined to be thirty (CAM and CAF scores range from 0 to 100) since the percentage of false positives and false negatives converged when the clinical cutting score equaled 33. A score above thirty indicates the presence of a problem in the domain being measured.

These scales have been recommended for use in a very wide range of clinical and research applications. Guili and Hudson maintain that these scales provide an excellent basis for those who need reliable and valid short-term measures of the severity of parent-child relationship problems.<sup>(33)</sup>

A copy of the CAM Scale can be found in Appendix C. The following are sample statements taken from the CAM Scale where the respondents were requested to place a number following the statement indicating 1 - rarely or none of the time, 2 - a little of the time, 3 - some of the time, 4 - good part of the time, and 5 - most or all of the time: "My mother gets on my nerves", "My mother is too demanding", "I think my mother is terrific."

### The Parent Interview

The parent interview was the means by which the investigator sought to elicit information directly from the parents regarding their perception of their relationship with their adolescent with diabetes mellitus, and their perceived informational and emotional support. During the parent interview the investigator provided some feedback to the parents, eased the threat of personal intrusion into their lives, and obtained informed consent. A limited amount of support was given throughout the interview if the level of anxiety was perceived by the investigator to be high. The support consisted of statements such as, "you are not alone in feeling this way. Many parents have told me they have had similar feelings."

During the interview parents sought rationale and support for their feelings and experiences. Many began their statements by saying, "I don't know what you've found in the other families, but we...". Generally, the parents were relieved to talk with the investigator about their feelings and their lives with a diabetic adolescent.

Polit and Hungler state that the one method of securing survey information is for trained interviewers to meet with individuals in a face-to-face situation and secure information from them. In most cases the interviewer will use a carefully developed set of questions, referred to as an interview schedule.<sup>(32)</sup> The interview schedule (Appendix D)

was developed by the investigator in consultation with two experts: a psychiatrist on a medical school faculty teaching in a residency program for physicians specializing in family medicine; a professor of adult nursing with expertise in the area of family counseling and teaching in a graduate program. The questions were aimed at eliciting the parents' general, overall feelings, thoughts and attitudes about their relationship with their diabetic child (e.g., "Do you feel your adolescent with chronic disease is "different" from other adolescents who do not have chronic illnesses?" and "Do you feel you are sometimes too careful or protective of your adolescent with diabetes mellitus?"). The interview schedule was used as a guide to insure content comparability for analysis. Parents were allowed to discuss aspects of questions and statements freely which gave the investigator insight into family functioning.

Personal interviews were done in the respondent's home. This approach has the advantage of putting the respondent at ease. Personal interviews are a useful method of collecting survey data and result in a high number of persons consenting to be interviewed. (32)

### Data Collection

This section includes a description of the population, procedure for data collection, and a discussion of the variables.

Population. Permission for a computer search of their

cases was obtained from physicians who had as patients diabetic adolescents. The search was to assist the researcher in locating adolescents who met the following criteria:

- 1) between and including the ages of 16 to 18 years with diabetes mellitus;
- 2) living at home with both parents in the home;
- 3) attending a senior high school; and
- 4) affected by ketosis-prone diabetes mellitus for at least one year.

The computer search identified 10 diabetic adolescents and their parents residing in the midwest urban area under study.

#### Procedure for Data Collection.

- 1) Researcher met the criteria for the Human Subjects Committee at South Dakota State University.
- 2) Introductory letter was mailed to families (Appendix A) explaining the study and procedure; followed by a telephone call to arrange an appointment time and date (the interviews took place in the respondents' homes in the early evenings when all appropriate family members could be present).
- 3) In the home, the researcher gave the questionnaires (the DAS, CAM, and CAF) to the adolescent to complete in a room separate from the parents and the investigator. The adolescents were instructed to complete the questionnaires truthfully and candidly. Confidentiality was ensured by

requesting they not put their names on the questionnaires or envelopes.

4) Both parents were interviewed using the guide developed by the researcher (Appendix E). Interviews lasted from thirty to sixty minutes. The ten interviews were completed within a two-and-one-half week period.

5) The adolescents returned the completed questionnaires to the investigator in a sealed envelope. The adolescents were not present during the parent interviews and had been told that the investigator would be asking their parents questions about what it was like to live with a child with diabetes mellitus.

Variables. The dependent variable in the study was the score obtained on the Diabetic Adjustment Scale (DAS). The investigator was interested in understanding the DAS score in relation to the attribute or independent variable, magnitude of problems in the parent-child relationship.

#### Treatment of Data

The relationship between the adolescent's adjustment to diabetes mellitus and the degree or magnitude of a problem in the parent-child relationship was explained using the Pearson Product Moment Correlation method of statistical analysis.

The results and analysis are divided into the following three sections:

1. How does the parent-child relationship (as reported

by the scores obtained on the Child's Attitude Toward Mother (CAM) and Child's Attitude Toward Father (CAF) Scales relate to the adolescent's adjustment to diabetes mellitus (as measured by the score obtained on the Diabetic Adjustment Scale (DAS)? In the statistical analysis of the data in this section, three correlation coefficients were computed: (1) between total scores on the CAM and the DAS. This measured the strength of the relationship between the adolescent's relationship with his or her mother and adjustment to diabetes mellitus, (2) between total scores on the CAF and the DAS. This measured the strength of the relationship between the adolescent's relationship with his or her father and adjustment to diabetes mellitus, and (3) between total scores on the CAM and the CAF. This measured the strength of the relationship between the two parent-child relationships as measured by the respective scales.

2. Analysis of the Diabetic Adjustment Scale subcategory score interrelationships of the adolescents in this study (subcategories are: dependence/independence issues, school adjustment, family relationships, peer adjustment, and attitude toward diabetes mellitus and body). Diabetic Adjustment Scale subcategory intercorrelations were done in order to analyze the relationship between the subcategories as measured by the DAS.

3. Summarization and presentation in chart form of data derived from the parent interview and scores obtained on the

Child's Attitude Toward Mother and Child's Attitude Toward Father Scales, and Diabetic Adjustment Scale. Specific trends and responses among the families were described and analyzed in detail.



## CHAPTER 4

### Results and Analysis

This chapter reports the analysis of the data.

1. How does the parent-child relationship (as reported by the scores obtained on the Child's Attitude Toward Mother and the Child's Attitude Toward Father Scales) relate to the adolescent's adjustment to diabetes mellitus (as measured by the score obtained on the DAS)? The results indicate that when the adolescent experienced problems adjusting to diabetes mellitus, there were likely to be problems in the relationship the adolescent had with his or her parents. The relationship problem was more significant with their mothers than with their fathers. Specifically, (1) there was a significant correlation between scores obtained on the DAS and the CAM. This indicates a strong positive relationship between adjustment to diabetes and the quality of the mother-child relationship among the subjects in this subpopulation ( $r = .72, p \leq .02$ ), (2) there was a barely significantly positive correlation between scores obtained on the DAS and the CAF. This indicates a milder positive relationship between adjustment to diabetes and the quality of the father-child relationships among the subjects in this subpopulation ( $r = .58, p \leq .10$ ), and (3) no relationship between scores obtained on the CAM and CAF. This indicates

that the degree of a problem in the relationship with one parent does not predict or indicate the degree of a problem to be found in the relationship with the other parent.

The stronger positive correlation between adjustment to diabetes and the mother-child relationship could be predicated on one or more of the following: (1) the greater traditional maternal parenting role in western society, (2) maternalistic instincts traditionally centralized within the home and paternalistic instincts traditionally centralized outside of the home, and (3) the findings that mothers in this study indicated they generally worried more about their diabetic children than did the fathers; mothers took a greater responsibility for the dietary management of their diabetic children; and mothers brought up the topic of diabetes mellitus more often than did other family members. The northern midwest geographic location of this study is associated with conservative parent roles, religious faith, marital integrity, and mothers who do not work outside the home. Some of these hypotheses will be discussed again in the parent interview analysis (see Appendix D).

2. Analysis of the Diabetic Adjustment Scale subcategory score interrelationships of the adolescents in this study (subcategories are: dependence/independence issues, school adjustment, family relationships, peer adjustment, and attitudes toward diabetes mellitus and body). This section examines the subcategory scores and analyzes the

relationships between the subcategories measured by the DAS. The DAS subcategory intercorrelations for the subjects included in this study are presented (Appendix D). Consistency is indicated among the correlations between subcategories which were designed to measure "independent entities." Thus one could reasonably predict the score that was to be obtained on one subcategory (e.g., school adjustment) by knowing the score obtained on another subcategory (e.g., peer adjustment). Based on the study results the writer believes that: (1) this subpopulation is markedly different from the population used to develop the DAS; or (2) the subcategories do not measure independent entities. The second conclusion may indicate that man, as a bio-social system, is made up of many interrelated entities. The writer hypothesizes that school adjustment is just as much a function of peer adjustment, dependence/independence issues, attitude toward diabetes mellitus and body, etc., as it is an independent "adjustment" entity by itself, and that all subcategories are so related (Appendix D).

3. Summary and presentation of data derived from the parent interviews and scores obtained on the Child's Attitude Toward Mother and Child's Attitude Toward Father Scales, and the Diabetic Adjustment Scale. Specific trends and responses among the families are described in detail by category as outlined on the parent interview chart (Appendix E). Reference can be made to parent responses as well as

scores their child obtained on the DAS (measuring the adolescent's adjustment to diabetes mellitus), and the CAM and CAF (measuring the degree or magnitude of a problem in the parent-child relationship). For ease of reference, families A, B, and C are those whose diabetic adolescents scored poor (indicating "fair" adjustment), and families D,E,F,G,H,I, and J are those whose diabetic adolescents scored better (indicating "good" adjustment).

#### Family Cohesiveness

Between those who scored "fair" in adjustment and those who scored "good" in adjustment, there was no consistent pattern to the parental responses regarding recreational activities the parents enjoyed with their diabetic adolescents. This could be due to several factors: (1) the difficulty in assessing the quality of the relationships and time spent in family activities; (2) the likelihood that adolescents characteristically prefer to spend recreational time in school and peer activities (establishing the developmental task of independence from their families); or (3) economic factors affecting the recreational activities of the family.

In Family A, the diabetes mellitus adolescent was diagnosed in the two months prior to the father's transfer from an urban area in the southwestern United States. In discussing their son's adjustment problems (this adolescent did score the poorest in adjustment to diabetes mellitus

among the subjects), Mr. and Mrs. A. described their son's refusal to accompany the family on their imminent vacation. They related that his refusal to attend and with their anxiety concerning his ability to care for himself in their absence had greatly contributed to existing family tensions and increased marital strain.

The family replies on spouse differences in the way they treated their diabetic adolescents were scattered. In two out of the three families whose adolescent scored "fair" on the adjustment score, the parents indicated that they differed in this respect, and parents of three out of seven in the "good" adjustment category also differed. The differences were mainly in regard to degree of patience and worry of each parent. The responses to this question were difficult to assess since the investigator had no way of knowing how significant the differences between the parents were; i.e., are they a function of normal human individuality or of discordant values and attitudes? Hymovich states that discrepancies between coping strategies of parents create adaptive problems in their children.<sup>(35)</sup> A more precise method of eliciting this kind of information is needed in order to accurately assess discrepant coping strategies among parents of children having adjustment problems.

#### Anxiety-Trust

Two of the three families whose adolescents scored in the "fair" adjustment group tended to worry about their

children anytime the adolescents were not in their presence. The father in Family A confided that he worries when on occasions he had to be alone with his son without his wife's support. He described his relationship with his son as quite volatile. This adolescent's scores on the CAM and CAF Scales indicated the greatest problem in the parent-child relationship among the subjects tested. In these same two families, the parents indicated they did not trust their children to care for themselves. In Family A the adolescent will not wear a medic-alert bracelet. His parents repeatedly requested that he wear this bracelet which would inform emergency medical attendants of his diabetic condition. Mr. and Mrs. A. state that absorbed in other activities he often forgets to eat sensibly until he feels the beginning of an insulin reaction. The parents of the adolescent in Family B fear for their seventeen-year-old son's safety when he drives the family automobile. He has had near mishaps with the car when experiencing an insulin reaction. This adolescent will not carry a candy bar in the car to stop reactions despite the repeated requests of his parents.

All parents in the "fair" adjustment group feel they are too careful or protective of their diabetic adolescent. Perhaps a cycle is established in which the adolescent's adjustment to diabetes mellitus is complicated by parental anxiety. It is difficult to suggest where the cycle begins or in which direction it proceeds. The diabetic adolescent

who do not have their parents' trust must deal with the consequences of heightened parental anxiety that leads to overprotectiveness and subsequent guilt. Ultimately this anxiety leads to further deterioration in the parent-child relationship (this can be seen in the respective CAM and CAF Scale scores for the adolescents in Families A and B).

Four of the seven families in the "good" adjustment group did not feel they worried "too much" about their adolescent with diabetes mellitus, and six of seven trusted them to care for themselves when the parents could not be present. Two of the families in this group expressed normal parental concerns regarding adolescent activities with peers (experimentation with smoking, drugs, and alcohol). The families were divided with regard to feeling too careful or overprotective.

Wishner and O'Brien discuss overprotection as a consequence of fear, guilt, or other family dynamics in which the diabetic may be subjected to various restrictions that are ultimately detrimental to growth and development of the individual's personality.<sup>(7)</sup> The results of this study support those of Wishner and O'Brien.

#### Perceived Disability

The parents of two of the three families whose adolescents scored in the "fair" adjustment category perceived their children as different from non-diabetic adolescents.

One mother stated (Family B):

"P. is different since he got diabetes mellitus. He's distant. He feels different. It hinders his sports activities." (Note: This adolescent has won an interstate conference wrestling championship during the time he has had diabetes mellitus.)

The father of this child added:

"P. can't handle stress. It does something horrible to him. Things we get on the other kids for, we don't get on him. He doesn't concentrate as well in school and he won't listen to us. He fights you. We'll test his blood sugar with his new glucometer and it will be low, especially when he's real moody. I keep telling him, 'This is your disease, P.' That's a reality. He won't face reality."

Not all of the parents of adolescents who scored in the "good" adjustment category perceived their children as different from nondiabetic adolescents. The thought of recurrent coma or insulin reactions keeps family tensions high.<sup>(7)</sup> Mrs. B. discussed a recent morning in which they were unable to arouse their son who was experiencing an insulin reaction. Mrs. B. described her son who had then recovered consciousness in the hospital this way:

"He was crying. And all he kept saying was that he wanted to die."

The parents revealed that the son is afraid to go to sleep at night, especially when he "doesn't feel well." They say



he asks to be awakened at 2:30 A.M. when his father goes to work in a local factory. Mr. B. states that he arouses his son every night before going to work.

The parents of those diabetic adolescents in the "fair" adjustment category expressed concern about the future when asked to describe their feelings about their adolescent's lifelong dependence on insulin. Mrs. B., of the family described above, stated:

"I feel bitter. Why has God done this to me? Why did He do it to P.? I know I shouldn't complain, but it makes me depressed. P's life would be so much easier, and it would be so much easier for me, too."

Mr. B. added:

"I'm scared for him. It's an expensive disease. I'm scared for his future. He may have to depend on me. I hope for a cure."

(Five of the ten families in this study say they hope for a cure during their children's lifetime). Mr. and Mrs. A. said they felt sad and depressed when thinking about their son's future. Mrs. A. recalled that she has had many bad dreams in which there was a war and insulin could not be obtained. This fear of not being able to obtain insulin was expressed by two of the three families in the "fair" adjustment category.

Five of seven families whose adolescents scored "good" in adjustment expressed optimistic feelings such as, "we

don't worry about things until they happen"; "we turn it over to the Lord"; "it concerns us but we don't worry excessively"; "...it could be worse." One parent thoughtfully replied, "diabetes mellitus is a small part of our son's life."

In this study, as well as Venters study on how families cope with chronic childhood illness, the parents who demonstrated optimism found a reason for confidence in the present and hope for the future.<sup>(34)</sup> The parents acknowledge problems, but their optimism permitted them to carry those burdens with hope and faith that something better would follow. Thus, such a philosophy provided motivation to attack problems and strive for achievement.

### Communication

Two of three families in the "fair" adjustment group felt that communication with their adolescents was difficult. Communication was more often with the mother than with the father (this finding may allude to the greater positive correlation between the scores on the Diabetic Adjustment Scale and the Child's Attitude Toward Mother Scale). In contrast, two of the seven families in the "good" adjustment group experienced communication difficulties.

Six of the ten families reported that it was the mother who initiated talking about diabetes mellitus in the family. This may be due to the traditionally greater maternal role in nurturance and care giving within the family (and

another possible suggestion for the greater correlation found between the DAS and the CAM Scale).

### Feelings of Loss

When asked how they remembered their relationship with their child with diabetes mellitus before they knew he or she had diabetes mellitus, only one of the three families in the "fair" adjustment group and two of the seven families in the "good" adjustment group had at least one parent who remembered the relationship as better. In the two families where the parents were split in their responses to this question, it was the mothers who felt their relationships were better before their children developed diabetes mellitus. This may imply greater positive DAS - CAM correlation.

### Parent's Perception of Child's Positive and Negative Personality Characteristics

The parent's report of their adolescent's positive and negative personality characteristics is recorded on the parent interview chart. One mother (Family G) described her son in this way:

"M. is extra special. He has a strong faith and concern for others. He handles his own problems well. Because of this, I'm glad that of all my children, he is the one who has diabetes mellitus."

Among the families interviewed, there appears to be no pattern to the responses regarding their adolescent's

positive and negative personality characteristics. Parents described their diabetic adolescents as "lazy", or "not willing to help around the house", or "not applying themselves enough in school." These references were made by five out of the ten families and probably suggests a familiar trait among adolescents in general and may not be a function of adjustment to diabetes. The investigator noted the strong feelings inherent in the word "liar" used by the parents in Family A in describing a negative personality quality in their son. Family A has been discussed frequently in this analysis. This diabetic adolescent's scores on the DAS, CAM and CAF Scales indicate problems in adjusting to diabetes mellitus as well as problems in parent-child relationships.

Families in this study seek out activities to modify family stress and demonstrate ability to maintain meaningful relationships within and outside the family. Yet the "fair" diabetic adjustment and significant parent-child relationship problems of three of the diabetic adolescents confirm the negative familial response. The reactions typify one of the long-term courses of familial adaptation described by Venters as one of social isolation and reduction in positive intra-familial communication.<sup>(34)</sup>

In summary, there was a significant relationship between the adolescents' adjustment to diabetes and the quality of their relationships with their parents. The strongest correlation was between adjustment to diabetes and

the quality of the adolescent's relationship with his or her mother. These relationships indeed must be powerful to present themselves in such a small subpopulation. When the adolescent experienced problems adjusting to diabetes mellitus, there were problems in the adolescent's relationship with his or her parents.

## CHAPTER 5

### Summary and Recommendations

The focus of this study is on adolescents who have diabetes mellitus and their adjustment to that disease. This study explores the relationship between adolescents adjustment to diabetes mellitus and the parent-child relationships. The research questions asked were: 1. How does the parent-child relationship reported by the Child's Attitude Toward Mother and Child's Attitude Toward Father Scales relate to the adolescent's adjustment to diabetes mellitus as measured by a score on the Diabetic Adjustment Scale? 2. What are the parents' perceptions of their relationship with their adolescents with diabetes mellitus.

#### Major Findings and Conclusions

1. As measured by a score on the Diabetic Adjustment Scale, the adolescent who experienced problems in adjusting to diabetes mellitus, also experienced problems in his/her relationship with his/her parents as measured by the Child's Attitude Toward Mother and Child's Attitude Toward Father Scales. The greater correlation was between the mother-child relationship and adjustment to diabetes mellitus. Interviews with parents also indicated a relationship between adjustment to diabetes and the quality of parent-adolescent relationship.

2. Data derived from the parent interviews:

FAMILY COHESIVENESS: There was no consistent pattern of family cohesiveness as measured by the parental responses regarding recreational activities the parents enjoyed with their diabetic adolescents.

ANXIETY-TRUST: There was a higher degree of anxiety, lack of trust, and feelings of overprotectiveness among the families whose diabetic adolescents scored "fair" in adjustment on the DAS as compared to those who scored "good" in adjustment.

PERCEIVED DISABILITY: The parents of those adolescents who scored "good" in adjustment did not perceive their children as different from adolescents who were not diabetic. Two of the families whose adolescent diabetics scored "fair" in adjustment perceived them as different.

COMMUNICATION: The parents of the "fair" adjustment range group reported more problems communicating with their diabetic adolescents than did parents in the "good" adjustment range.

FEELINGS OF LOSS: Families reported no differences in their relationships with their adolescents after the diagnosis of a chronic disease (diabetes mellitus).

PARENTS PERCEPTION OF CHILD'S POSITIVE AND NEGATIVE PERSONALITY CHARACTERISTICS: There was no pattern to parental responses regarding their perceptions of the adolescent's positive and negative personality characteristics.

3. The subcategories on the DAS (dependence/independence issues, social adjustment, family relationships, peer adjustment, and attitude toward diabetes mellitus and body) did not appear to measure separate and independent entities as purported by the scale developer.<sup>(1)</sup> Subcategory inter-correlations for the DAS indicated a pervasive trend toward consistency. The researcher suggests that the subcategory scores tended to predict each other instead of measuring separate entities (i.e., some scores would be high, low, or in the middle).

#### Implications for Nurses

The results of this study have the following implications for nurses working in their professional role with chronically diseased adolescents and their families:

1. Anxiety can alter family dynamics in undesirable ways. The nurse can remedy these undesirable effects by meeting the informational and emotional needs of the family members.

2. Parent-child relationships influence adjustment. Therefore, nurses need to focus on the family as the unit of health care.

3. Nurse's interventions should be in the form of family counseling for adolescents and their families rather than individual interventions with family members.

4. Nurses should be aware that if adjustment to diabetes mellitus is a problem, there probably is also a



problem in the parent-child relationship.

### Limitations

The limitations of the study are:

1. The homogeneity of the study population with respect to race, geographical location, economic strata, and marital integrity.
2. Before use in this study, no pilot study was made using the parent-interview tool developed by the researcher.
3. The small size of the study population.

### Recommendations

Recommendations by the author for further study are:

1. A study to assess relationships between adolescents with diabetes mellitus and their parents using the DAS, CAM and CAF Scales with a larger and more varied population using a control group.
2. A study of the effects of variables such as geographical location, economic strata, marital integrity, race, age of onset of diabetes mellitus, degree of control of diabetes, perceptions of support, cognitive development of diabetic adjustment on intra-familial relationships.
3. Further exploration into the nature of the association between adjustment to diabetes and the mother-child relationship.
4. Refinement of parent interview tool developed by the researcher and confirmation of its reliability and

validity.

5. A study comparing adolescents with diabetes mellitus with adolescents with other chronic diseases and their respective parent relationships.

ENDNOTES

## ENDNOTES

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APPENDIX A  
SAMPLE INTRODUCTORY LETTER TO FAMILIES



Dear

Your family has been selected to participate in a research project that will attempt to find out how teenagers feel about living with diabetes, the adjustments, and their families. The study is being done for partial requirements toward a graduate degree in nursing at South Dakota State University, Brookings, under the guidance and direction of Dr. Evelyn Peterson, Professor of Nursing at South Dakota State University, and Dr. Fred C. Lovrien, Central Plains Clinic, Sioux Falls.

Your participation in this project involves your completing two questionnaires, which will take approximately one hour of your time. No names or any other means of identification will be used on the questionnaires since we want you to be truthful in answering the questions regarding your feelings. I would also like to talk with your parents about how they have adjusted to living with diabetes in the family. You will be called about setting a time for which you and your parents would be available.

Your participation in this study is very important. With the help of Dr. Lovrien, we have selected seven families who have 16 to 18 year olds living with diabetes. As health professionals, we need to learn more about the effect of living with diabetes during the teenage years. There is no better way to find this out than to ask you directly. In this way, we can understand better how to help all adolescents who have diabetes and their families.

Sincerely,

Ann M. Demos, R.N., B.S.N.  
Graduate Nursing Student  
South Dakota State University

Fred C. Lovrien, M.D.  
Central Plains Clinic

APPENDIX B  
DIABETIC ADJUSTMENT SCALE

Please respond to the following statements by circling the number that best indicates how you feel. This is not a test. There are no right or wrong answers. Please answer honestly, according to the way you feel right now.

- 5 - ALWAYS  
 4 - MOST OF THE TIME  
 3 - SOMETIMES  
 2 - ONCE IN A WHILE  
 1 - NEVER  
 X - DOES NOT APPLY

- |  |   |   |   |   |   |   |
|--|---|---|---|---|---|---|
| 1. I think diabetes is a serious illness.                                  | 5 | 4 | 3 | 2 | 1 | X |
| 2. I control my diabetes myself.   | 5 | 4 | 3 | 2 | 1 | X |
| 3. I tell my teachers I have diabetes.                                     | 5 | 4 | 3 | 2 | 1 | X |
| 4. I think I have too many dents and bumps on my body.                     | 5 | 4 | 3 | 2 | 1 | X |
| 5. I talk to my non-diabetic friends about my diabetes.                    | 5 | 4 | 3 | 2 | 1 | X |
| 6. My brothers and sisters tease me about having diabetes.                 | 5 | 4 | 3 | 2 | 1 | X |
| 7. I think my diabetes is getting worse.                                   | 5 | 4 | 3 | 2 | 1 | X |
| 8. I wish I were more independent.   | 5 | 4 | 3 | 2 | 1 | X |
| 9. I think I would enjoy school more if I didn't have diabetes.            | 5 | 4 | 3 | 2 | 1 | X |
| 10. I try to cover up the bumpy areas on my body with my clothes.          | 5 | 4 | 3 | 2 | 1 | X |
| 11. I tell my friends at home that I have diabetes.                        | 5 | 4 | 3 | 2 | 1 | X |
| 12. I think my parents are more concerned about my diabetes than about me. | 5 | 4 | 3 | 2 | 1 | X |

Diabetic Adjustment Scale  
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13.	I get embarrassed when I have to refuse food.	5	4	3	2	1	X
14.	I wish I could run away.	5	4	3	2	1	X
15.	I have to go to the bathroom more than other students at school.	5	4	3	2	1	X
16.	I think I'm as good looking as most other kids.	5	4	3	2	1	X
17.	My friends at home deliberately tempt me to eat foods I shouldn't eat.	5	4	3	2	1	X
18.	My parents expect too much of me.	5	4	3	2	1	X
19.	I would rather eat something I shouldn't than tell people I have diabetes.	5	4	3	2	1	X
20.	I would rather have my parents control my diabetes for me.	5	4	3	2	1	X
21.	I daydream at school.	5	4	3	2	1	X
22.	I wished I looked different than I do.	5	4	3	2	1	X
23.	I enjoy eating with my friends.	5	4	3	2	1	X
24.	I feel like no one pays attention to me at home.	5	4	3	2	1	X
25.	I think people with diabetes shouldn't get married.	5	4	3	2	1	X
26.	My parents act like diabetes is THEIR disease not MINE.	5	4	3	2	1	X
27.	School work is easy for me.	5	4	3	2	1	X
28.	I have trouble sleeping.	5	4	3	2	1	X
29.	My non-diabetic friends understand me.	5	4	3	2	1	X
30.	My parents embarrass me.	5	4	3	2	1	X

Diabetic Adjustment Scale  
Page 3

31.	I get mad at myself when I have insulin reactions.	5	4	3	2	1	X
32.	My mother is too careful or protective of me.	5	4	3	2	1	X
33.	I have fun at school.	5	4	3	2	1	X
34.	I feel tired.	5	4	3	2	1	X
35.	My friends at home tease me about my diabetes.	5	4	3	2	1	X
36.	I feel like my parents punish me too much.	5	4	3	2	1	X
37.	I would rather not tell people when I'm having a reaction.	5	4	3	2	1	X
38.	My father is too careful or protective of me.	5	4	3	2	1	X
39.	I do well in school.	5	4	3	2	1	X
40.	I have too many insulin reactions.	5	4	3	2	1	X
41.	I think my non-diabetic friends would like me better if I didn't have diabetes.	5	4	3	2	1	X
42.	I talk to my parents about my diabetes.	5	4	3	2	1	X
43.	People who have diabetes get too many responsibilities before they are ready for them.	5	4	3	2	1	X
44.	I wish I didn't have diabetes.	5	4	3	2	1	X
45.	I have fights with the other kids in school.	5	4	3	2	1	X
46.	I feel like I'm not hungry.	5	4	3	2	1	X
47.	It's harder to make friends when you have diabetes.	5	4	3	2	1	X
48.	My parents act like they love me.	5	4	3	2	1	X

## Diabetic Adjustment Scale

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49. I fake my urine test reports.	5	4	3	2	1	X
50. I take part in figuring out my own meals.	5	4	3	2	1	X
51. I get discouraged in school.	5	4	3	2	1	X
52. I feel like I'm "in control" as far as my diabetes is concerned.	5	4	3	2	1	X
53. I wish I had more friends.	5	4	3	2	1	X
54. I get angry at my mother.	5	4	3	2	1	X
55. I feel like not taking my insulin.	5	4	3	2	1	X
56. I give myself my own insulin.	5	4	3	2	1	X
57. I wish my teachers knew more about diabetes.	5	4	3	2	1	X
58. I'm afraid I'll get very sick before I'm very old.	5	4	3	2	1	X
59. I play with kids who are younger than me.	5	4	3	2	1	X
60. I get angry at my father.	5	4	3	2	1	X
61. When I'm angry, I forget to take my insulin.	5	4	3	2	1	X
62. On sick days when I have a cold or the flu, I manage my diabetes myself.	5	4	3	2	1	X
63. I get in trouble in school.	5	4	3	2	1	X
64. I tell people when I think I'm having a reaction.	5	4	3	2	1	X
65. Other kids pick on me.	5	4	3	2	1	X
66. I wish my family knew more about diabetes.	5	4	3	2	1	X
67. When I'm mad, I eat more than usual.	5	4	3	2	1	X
68. I wish I wasn't fat.	5	4	3	2	1	X

APPENDIX C  
CHILD'S ATTITUDE TOWARD MOTHER (CAM)

## Child's Attitude Toward Mother (CAM)\*

Today's Date \_\_\_\_\_

This questionnaire is designed to measure the degree of contentment you have in your relationship with your mother. It is not a test, so there are no right or wrong answers. Answer each item as carefully and accurately as you can by placing a number beside each one as follows:

- 1 - RARELY OR NONE OF THE TIME
- 2 - A LITTLE OF THE TIME
- 3 - SOME OF THE TIME
- 4 - GOOD PART OF THE TIME
- 5 - MOST OR ALL OF THE TIME

Please begin.

- 1. My mother gets on my nerves. \_\_\_\_\_
- 2. I get along well with my mother. \_\_\_\_\_
- 3. I feel I can really trust my mother. \_\_\_\_\_
- 4. I dislike my mother. \_\_\_\_\_
- 5. My mother's behavior embarrasses me. \_\_\_\_\_
- 6. My mother is too demanding. \_\_\_\_\_
- 7. I wish I had a different mother. \_\_\_\_\_
- 8. I really enjoy my mother. \_\_\_\_\_
- 9. My mother puts too many limits on me. \_\_\_\_\_
- 10. My mother interferes with my activities. \_\_\_\_\_
- 11. I resent my mother. \_\_\_\_\_
- 12. I think my mother is terrific. \_\_\_\_\_
- 13. I hate my mother. \_\_\_\_\_
- 14. My mother is very patient with me. \_\_\_\_\_
- 15. I really like my mother. \_\_\_\_\_
- 16. I like being with my mother. \_\_\_\_\_
- 17. I feel like I do not love my mother. \_\_\_\_\_
- 18. My mother is very irritating. \_\_\_\_\_
- 19. I feel very angry toward my mother. \_\_\_\_\_
- 20. I feel violent toward my mother. \_\_\_\_\_
- 21. I feel proud of my mother. \_\_\_\_\_
- 22. I wish my mother was more like others I know. \_\_\_\_\_
- 23. My mother does not understand me. \_\_\_\_\_
- 24. I can really depend on my mother. \_\_\_\_\_
- 25. I feel ashamed of my mother. \_\_\_\_\_

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2,3,8,12,14,15,16,21,24

\*The Child's Attitude Toward Father Scale is identical except for substitution of the word "father" for mother.



APPENDIX D  
PRESENTATION OF DATA: TABLE 1 AND 2

Table 1

Correlations Between Scores Obtained on the Diabetic Adjustment Scale (DAS) and Child's Attitude Toward Mother (CAM); Diabetic Adjustment Scale (DAS) and Child's Attitude Toward Father (CAF); and Child's Attitude Toward Mother (CAM) and Child's Attitude Toward Father (CAF)

ADOLESCENT	r=.72, p<.02		r=.58, p<.10		r=0	
	DAS	CAM	DAS	CAF	CAM	CAF
Family A	141	66	141	74	66	74
Family B	119	76	119	15	76	15
Family C	124	36	124	45	36	45
Family D	58	17	58	7	17	7
Family E	88	9	88	6	9	6
Family F	94	6	94	11	6	11
Family G	108	39	108	56	39	56
Family H	92	37	92	44	37	44
Family I	112	19	112	9	19	9
Family J	90	3	90	18	3	18

Table 2  
 Diabetic Adjustment Scale Subcategory  
 Intercorrelations

	Dependence/Independence Issues	School Adjustment	Family Relationships	Peer Adjustment	Attitude Toward Diabetes & Body
Dependence/Independence Issues					
School Adjustment	+.40				
Family Relationships	+.40	+.36			
Peer Adjustment	+.41	+.37	+.34		
Attitude Toward Diabetes & Body	+.35	+.33	+.31	+.32	

APPENDIX E  
PARENT INTERVIEW CHART

## Family Cohesiveness

1. What recreational activities do you enjoy with your diabetic teenager?

2. Do you feel you and your spouse differ in the way you treat your diabetic teenager? If so, how?

### ANXIETY - TRUST

3. When do you find yourself worrying about your diabetic teenager most?

4. Do you trust your diabetic teenager to take care of his- or herself when he/she is away from home or on occasions when you are not nearby?

5. Do you feel you are sometimes too careful or overprotective of your diabetic teenager?

### PERCEIVED DISABILITY

6. Do you feel your diabetic teenager is "different" from other teenagers who are not diabetic?

7. What feelings do you have when you think about your diabetic teenager's dependence on insulin for the remainder of his/her life?

### COMMUNICATION

8. As parents, are you able to share your feelings and concerns easily with your diabetic teenager and the teenager share his/her feelings easily in return?

9. When you talk about diabetes in your family, who usually initiates topic?

### FEELINGS OF LOSS

10. How do you remember your relationship with your diabetic teenager before you knew he/she had diabetes as compared to now?

### PARENTS' PERCEPTION OF CHILD'S POSITIVE AND NEGATIVE PERSONALITY CHARACTERISTICS

11. What are the nicest qualities you usually think of in your diabetic teenager?

12. What are the qualities you would prefer to overlook?

### PERCEIVED SUPPORT

13. Do you feel you have support in living with diabetes? If so, what are your sources of support?

### YEARS SINCE DIAGNOSIS OF DIABETES MELLITUS

SCORE: DAS  
50-116 good adjustment  
117-183 fair adjustment  
184-250 poor adjustment

SCORE: CAM } possible score range 0-100 points clinical cutting score is 30 (above which indicated the presence of a problem) in the parent-child relationship

SCORE: CAF } 74

SEX } male

## Family A

none

yes  
mother-makes excuses for diabetic child  
father-worries more, less patient

mother-anytime son is away from home  
father-when alone with son; volatile relationship

mother } no  
father }  
won't wear medic-alert bracelet, forgets to eat when absorbed with work, friends, hobbies, school

mother-yes  
father-yes  
"I want to take care of him."  
worry about drugs, alcohol, smoking

yes  
"more backward"

terrible-sad, depressed, bad dreams, can't get insulin

no

mother

problem child before diabetes, significant, depressive, episode in 6th grade

perceptive to others, tactful, polite, people usually like him

"liar", lazy

no  
none, poor relationship with MD, "nothing available in community"

1

141 (fair)

66

74

male

## Family B

Many-hunting, fishing, play ball, get-togethers

yes  
mother-less patience, loses temper easily

anytime away from home

no

mother-yes  
father-yes

yes  
soodier, D.M. affects sports, schoolwork, he's distant, "he feels different"

mother-"I feel bitter. Why did God do this to me? Why did He do it to him?"  
father-"I'm scared for him", "He'll be dependent on me."

communicates with mother more easily than with father  
"doesn't express himself well", father

equal; no more than another

mother-got alone better before D.M.  
father-no different

considerate, "when he's happy he shows it all over", "he has a warm feeling for those who need his help"

"lazy", stubborn, lack of ambition/drive, temperament

no  
must make effort to seek out others, J.D.F., not enough info & counseling in hospital

2

119 (fair)

76

15

male

## Family Cohesiveness

## Family C

## Family D

1. What recreational activities do you enjoy with your diabetic teenager?

many-snow-bobbing, vacations

many-vacations, family get-togethers, father-son golf

2. Do you feel you and your spouse differ in the way you treat your diabetic teenager? If so, how?

no

no

### ANXIETY - TRUST

3. When do you find yourself worrying about your diabetic teenager most?

mother-anytime schedule changes (vacations...)  
father-doesn't worry

when with friends or away from home

4. Do you trust your diabetic teenager to take care of his- or herself when he/she is away from home or on occasions when you are not nearby?

yes

yes

5. Do you feel you are sometimes too careful or overprotective of your diabetic teenager?

yes

no

### PERCEIVED DISABILITY

6. Do you feel your diabetic teenager is "different" from other teenagers who are not diabetic?

no

no

7. What feelings do you have when you think about your diabetic teenager's dependence on insulin for the remainder of his/her life?

"hope for a cure", both worry about future, what if can't get insulin

mother-life span shorter  
father-"dure by the time he gets old", "don't worry about this until they happen"

### COMMUNICATION

8. As parents, are you able to share your feelings and concerns easily with your diabetic teenager and the teenager share his/her feelings easily in return?

yes  
(better with mother)

no

9. When you talk about diabetes in your family, who usually initiates topic?

"don't talk about it a lot"

mother

### FEELINGS OF LOSS

10. How do you remember your relationship with your diabetic teenager before you knew he/she had diabetes as compared to now?

no different

mother worries more, no difference for father

### PARENTS' PERCEPTION OF CHILD'S POSITIVE AND NEGATIVE PERSONALITY CHARACTERISTICS

11. What are the nicest qualities you usually think of in your diabetic teenager?

outgoing, reliable/dependable

kind to friends, cares about his well-being, care in appearance

12. What are the qualities you would prefer to overlook?

"moody"

"lack of communication", doesn't help around the house

### PERCEIVED SUPPORT

13. Do you feel you have support in living with diabetes? If so, what are your sources of support?

yes

yes  
J.D.F., friends

### YEARS SINCE DIAGNOSIS OF DIABETES RELIABLE

10

8

SCORE: DAS  
50-116 good adjustment  
117-183 fair adjustment  
184-250 poor adjustment

124 (fair)

58 (good)

SCORE: CAM possible score range 0-100 points clinical cutting score is 50 (above which indicated the presence of a problem) in the parent-child relationship

36

17

SCORE: CAP

45

7

### SEX

female

male

## Family Cohesiveness

1. What recreational activities do you enjoy with your diabetic teenager?

2. Do you feel you and your spouse differ in the way you treat your diabetic teenager? If so, how?

### ANXIETY - TRUST

3. When do you find yourself worrying about your diabetic teenager most?

4. Do you trust your diabetic teenager to take care of his- or herself when he/she is away from home or on occasions when you are not nearby?

5. Do you feel you are sometimes too careful or overprotective of your diabetic teenager?

### PERCEIVED DISABILITY

6. Do you feel your diabetic teenager is "different" from other teenagers who are not diabetic?

7. What feelings do you have when you think about your diabetic teenager's dependence on insulin for the remainder of his/her life?

### COMMUNICATION

8. As parents, are you able to share your feelings and concerns easily with your diabetic teenager and the teenager share his/her feelings easily in return?

9. When you talk about diabetes in your family, who usually initiates topic?

### FEELINGS OF LOSS

10. How do you remember your relationship with your diabetic teenager before you knew he/she had diabetes as compared to now?

### PARENTS' PERCEPTION OF CHILD'S POSITIVE AND NEGATIVE PERSONALITY CHARACTERISTICS

11. What are the nicest qualities you usually think of in your diabetic teenager?

12. What are the qualities you would prefer to overlook?

### PERCEIVED SUPPORT

13. Do you feel you have support in living with diabetes? If so, what are your sources of support?

### YEARS SINCE DIAGNOSIS OF DIABETES MELLITUS

SCORE: DAS  
50-116 good adjustment  
117-183 fair adjustment  
184-250 poor adjustment

SCORE: CAM possible score range 0-100 points clinical cutting score is 30 (above which indicated the presence of a problem) in the parent-child relationship

### SEX

## Family E

few sports, family get-togethers

no

"don't worry too much"

yes

yes

no

"don't dwell on it"  
"turn it over to the Lord"

yes  
mother-"I wish I had it instead of you"  
"It's not so bad, mom"

mother

no difference

good natured, conscientious

moodiness, temper

yes  
J.D.F.

4

88 (good)

9

6

male

## Family F

many shows, softball

no

don't worry

yes

no

"hope for a cure"  
concerns us, but no excessive worry

yes

mother

no difference

good attitude  
("he takes D.M. well")

moodiness (especially since D.M.)

no  
"Parents need more", "I don't know what Mr. L. is telling J."

5

94 (good)

6

11

male

## Family Cohesiveness

## Family G

## Family H

1. What recreational activities do you enjoy with your diabetic teenager?

few-busy with school activities

few-family get-togethers

2. Do you feel you and your spouse differ in the way you treat your diabetic teenager? If so, how?

yes  
mother-"worried"  
father-"harsh"

yes  
father-strict disciplinarian

### ANXIETY - TRIST

3. When do you find yourself worrying about your diabetic teenager most?

"anytime I can't see him" (both)

don't worry

4. Do you trust your diabetic teenager to take care of his- or herself when he/she is away from home or on occasions when you are not nearby?

no

yes  
"but K. doesn't realize seriousness of D.M."

5. Do you feel you are sometimes too careful or overprotective of your diabetic teenager?

mother-yes  
father-no

no

### PERCEIVED DISABILITY

6. Do you feel your diabetic teenager is "different" from other teenagers who are not diabetic?

no

no

7. What feelings do you have when you think about your diabetic teenager's dependence on insulin for the remainder of his/her life?

mother-worries, expense  
father-concerned, "he doesn't take D.M. seriously"; rebels when talked to about complications

"hope for cure-we're optimistic"  
"don't dwell on it"

### COMMUNICATION

8. As parents, are you able to share your feelings and concerns easily with your diabetic teenager and the teenager share his/her feelings easily in return?

yes

no

9. When you talk about diabetes in your family, who usually initiates topic?

mother

mother

### FEELINGS OF LOSS

10. How do you remember your relationship with your diabetic teenager before you knew he/she had diabetes as compared to now?

no difference

"happy-go-lucky"  
"sore carefree"

### PARENTS' PERCEPTION OF CHILD'S POSITIVE AND NEGATIVE PERSONALITY CHARACTERISTICS

11. What are the nicest qualities you usually think of in your diabetic teenager?

M. is "extra special", "I'm glad of all my children he's the one who got D.M." -mother  
faith, concern for others, handles own problems well

studious, perceptive, conscientious, thoughtful

12. What are the qualities you would prefer to overlook?

smokes (cigs), bites nails

uncommunicative, introspective, doesn't help around the house

### PERCEIVED SUPPORT

13. Do you feel you have support in living with diabetes? If so, what are your sources of support?

no  
"people don't understand", J.D.F., know others with D.M.

yes  
"don't need anymore"

### YEARS SINCE DIAGNOSIS OF DIABETES RELATED

6

10

### SCORE: DAS

50-116 good adjustment  
117-183 fair adjustment  
184-250 poor adjustment

108 (good)

92 (good)

### SCORE: CAM

possible score range  
0-100 points clinical  
cutting score is 30  
(above which indicated  
the presence of a prob-  
lem) in the parent-  
child relationship

39

37

### SCORE: CAF

56

44

### SEX

male

female



## Family Cohesiveness

1. What recreational activities do you enjoy with your diabetic teenager?

2. Do you feel you and your spouse differ in the way you treat your diabetic teenager? If so, how?

### ANXIETY - TRUST

3. When do you find yourself worrying about your diabetic teenager most?

4. Do you trust your diabetic teenager to take care of his- or herself when he/she is away from home or on occasions when you are not nearby?

5. Do you feel you are sometimes too careful or overprotective of your diabetic teenager?

### PERCEIVED DISABILITY

6. Do you feel your diabetic teenager is "different" from other teenagers who are not diabetic?

7. What feelings do you have when you think about your diabetic teenager's dependence on insulin for the remainder of his/her life?

### COMMUNICATION

8. As parents, are you able to share your feelings and concerns easily with your diabetic teenager and the teenager share his/her feelings easily in return?

9. When you talk about diabetes in your family, who usually initiates topic?

### FEELINGS OF LOSS

10. How do you remember your relationship with your diabetic teenager before you knew he/she had diabetes as compared to now?

### PARENTS' PERCEPTION OF CHILD'S POSITIVE AND NEGATIVE PERSONALITY CHARACTERISTICS

11. What are the nicest qualities you usually think of in your diabetic teenager?

12. What are the qualities you would prefer to overlook?

### PERCEIVED SUPPORT

13. Do you feel you have support in living with diabetes? If so, what are your sources of support?

### YEARS SINCE DIAGNOSIS OF DIABETES: WELL-BEING

SCORE: DAS  
50-116 good adjustment  
117-183 fair adjustment  
184-250 poor adjustment

SCORE: CAM } possible score range  
0-100 points clinical  
cutting score is 30  
(above which indicated  
the presence of a prob-  
lem) in the parent-  
child relationship

SCORE: CAF } 9

### SEX

## Family I

few-family get-togethers

yes  
mother-more "protecting"  
father-more patience

when out with friends

yes

yes  
worry about drugs, alcohol, smoking

no

"it could be worse"  
"D.M. is a small part of his life"

mother-yes  
father-no

"we don't really talk about it."

no different

diplomatic, good with children

quick temper, "moody", lazy, doesn't  
apply himself in school, talks back,  
procrastinates

yes  
don't need it

6

112 (good)

19

9

male

## Family J

many-walk together every day, golf

no

don't worry too much, sometimes at  
basketball games (teenager is cheer-  
leader)

yes

no

no

"sad-I wish it would have been me"  
hope for a pancreatic transplant

yes

J. does (diabetic teenager)

no different

smile, achiever, concern for  
others

moodiness, tries too hard

yes  
J.D.P., Dr. L., sought out  
other mothers with diabetic  
children

4

90 (good)

3

18

female

APPENDIX F  
PARENTAL CONSENT FORM

## Parental Consent Form

I hereby give my permission for my son/daughter to participate in a research study in partial fulfillment of requirements leading to a master's degree in nursing, by Ann M. Demos, R.N., B.S.N., at South Dakota State University, Brookings. This project is under the direction and guidance of a thesis committee headed by Dr. Evelyn Peterson, Professor at the College of Nursing, and Dr. Fred C. Lovrien of Central Plains Clinic, Sioux Falls.

The study attempts to find out how teenagers feel about living with diabetes, the adjustments, and their families. It involves my son/daughter answering two questionnaires. I understand that no names or any other means of identification will be used on the questionnaires so that the responses will be truthful.

\_\_\_\_\_  
Signature of parent or guardian

\_\_\_\_\_  
Date