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An Evaluation of a Nurse Case-Managed Program for Children with Diabetes

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**SAN JOSE STATE UNIVERSITY
SCHOOL OF NURSING**

**MASTER'S PROGRAM PROJECT OPTION (PLAN B)
PROJECT SIGNATURE FORM**

STUDENT NAME Jean Y. Carvalho
SEMESTER ENROLLED Spring 1999
TITLE OF PROJECT An Evaluation of a Nurse Case-Managed Program
for Children with Diabetes

The project and manuscript have been successfully completed and meet the standards of the School of Nursing at San Jose State University. The project demonstrates the application of professional knowledge, clinical expertise, and scholarly thinking. An abstract of the project and two copies of the manuscript are attached.

Coleen Daylar
ADVISOR SIGNATURE

5/1/99
DATE

Maura Zeitman
ADVISOR SIGNATURE

5/4/99
DATE

Please submit this form to the Graduate Coordinator. Attach the abstract, two copies of the manuscript, and documentation of submission to the journal.

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An Evaluation of a Nurse Case-Managed Program for Children with Diabetes

Abstract

This study evaluates an integrated model of care for children with diabetes that was developed at an HMO. This model program of 56 subjects included a nurse case manager, a multidisciplinary team clinic, and educational and counseling interventions to empower families to improve self-management of the children's diabetes. The purpose of the program was to improve diabetes self-management as measured by pre- and postintervention glycosylated hemoglobin values, quality of life, and self-efficacy ratings. There were improvements in means of all measures of self-management and a statistically significant improvement in self-efficacy beliefs of the parents. The higher quality of life and self-efficacy ratings are related to adherence to a complex diabetic regimen that is critical to effective self-management. This model provides comprehensive, effective care to a service-intensive population.

[REDACTED]

May 14, 1999

Veronica Feeg, PhD, RN, FAAN
Editor, Pediatric Nursing

[REDACTED]

Dear Dr. Feeg:

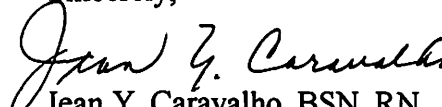
Enclosed is a manuscript, An Evaluation of a Nurse Case-Managed Program for Children with Diabetes, which I am submitting for publication in Pediatric Nursing. I am a graduate student with 12 years of experience in pediatric nursing and have been specializing in pediatric diabetes care for the past 2 1/2 years.

Studies of pediatric diabetes care models are infrequently found in the literature. This is a population of patients that requires intensive treatment in order to prevent long-term complications such as kidney failure, blindness and cardiovascular problems. Yet, the relatively small number of patients at any one healthcare site makes it difficult to provide the focused care and group interventions that are so integral to empowering patients and families to self-manage diabetes. The program described in the manuscript showed improvements in all measures, with one measure reaching statistical significance.

Readers who may be interested in this topic include pediatric nurses in an ambulatory care setting who have children with diabetes among their clients, nurses who manage children with other chronic conditions where self-management is important to healthy outcomes, and nurse managers who are looking for cost-effective ways to manage service-intensive patient populations.

This manuscript has not been previously published nor is it under consideration elsewhere. I look forward to hearing from you.

Sincerely,


Jean Y. Carvalho, BSN, RN

Enclosure: original and 5 photocopies of manuscript

CASE MANAGEMENT OF CHILDREN WITH DIABETES

An Evaluation of a Nurse Case-Managed Program for Children with Diabetes

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An Evaluation of a Nurse Case-Managed Program for Children with Diabetes

Abstract

This study evaluates an integrated model of care for children with diabetes that was developed at an HMO. This model program of 56 subjects included a nurse case manager, a multidisciplinary team clinic, and educational and counseling interventions to empower families to improve self-management of the children's diabetes. The purpose of the program was to improve diabetes self-management as measured by pre- and postintervention glycosylated hemoglobin values, quality of life, and self-efficacy ratings. There were improvements in means of all measures of self-management and a statistically significant improvement in self-efficacy beliefs of the parents. The higher quality of life and self-efficacy ratings are related to adherence to a complex diabetic regimen that is critical to effective self-management. This model provides comprehensive, effective care to a service-intensive population.

An Evaluation of a Nurse Case-Managed Program for Children with Diabetes

Background of the Problem

Insulin dependent diabetes mellitus (now referred to as type 1) is a chronic condition that affects 123,000 children and young adults (under the age of 20) in the United States, an incidence of 13 cases per 100,000 individuals (Burton, 1996). According to the American Diabetes Association (ADA), approximately three fourths of all newly diagnosed cases of type 1 diabetes occur in individuals younger than 18 years (American Diabetes Association, 1999).

Type 1 diabetes is a life-altering condition for children and their families. In addition to the daily, complex treatment regimen involving daily blood glucose testing and monitoring, insulin injections, and meal and exercise planning, parents must learn to manage care of their child in relation to the child's age and stage of growth and development. For example, management of an infant with diabetes varies greatly from management of a newly diagnosed adolescent or school-aged child. School-aged children are eager to learn and will eventually need to learn to manage their own diabetes-related care. However, studies have shown that children given responsibility for their care too soon have poorer metabolic control than those whose parents have stayed involved in their care (Savinetti-Rose, 1994). Adolescence presents a particularly difficult stage of growth and development both because of hormonal changes and the developing sense of independence and personal identity. Studies of diabetic adolescents show that they are at high risk for hospitalizations and complications due to noncompliance with diabetes regimens (Bougneres et al., 1993; Grey, Cameron, & Thurber, 1991).

The Diabetes Control and Complications Trial (DCCT), the benchmark study of intensive diabetes treatment of type 1 diabetics, showed that lowering the blood glucose concentrations delays or prevents the risks of long-term complications such as nephropathy, retinopathy, and

neuropathy (Diabetes Control and Complications Trial Research Group, 1993). Families must weigh, daily, the benefit of reducing these risks of complications against the burden of the restrictions needed to lower blood glucose, sometimes affecting a child's quality of life.

Prior to this program, pediatric diabetic care in the studied customer service area of the HMO has been inconsistent. Diabetes care has been provided by a variety of professionals including pediatric generalists, pediatric endocrinologists, adult internal medicine generalists, diabetologists, or endocrinologists. Some of the children leave the care of their pediatric generalists and receive all their health care through pediatric endocrinologists impacting the practice of the endocrinologists. The lack of an articulated program has led to patient confusion, inconsistent follow-up care, and frequent nonadherence to diabetes regimens.

Although the American Diabetes Association has recommended an educational intervention for all diabetics (American Diabetes Association, 1997), there has been no formalized education for these patients and their families. Currently, families are taught the basics of diabetes and "survival skills" (how to test blood glucose levels, how to give insulin injections, and the basics of a diabetes diet) during the child's initial hospitalization at the time of diagnosis. Thereafter, they are referred to self-learning resources and receive some education on an as-needed basis from their pediatrician, nurse practitioner, endocrinologist, or dietitian during clinic visits.

The Nurse Case-Managed Integrated Care Model

The nurse case-managed pilot program was implemented, incorporating ADA recommendations, to improve diabetic care of children and their families in this HMO. The goal was to empower patients to self-manage effectively through educational and counseling interventions and to provide a continuum of care. In this model, the intervention in this study,

the parents (or guardians) and children were seen in the Diabetes Team Clinic by a dietitian, a social worker, and the nurse case manager approximately every 3 months. The nurse adjusted insulin using a standardized procedure and algorithms while teaching the process until the parents were able to do this themselves. Group support and educational interventions were developed and implemented for parents and children according to the children's age. The nurse case manager used telephone visits to assist families in problem-solving to improve self-management.

For newly diagnosed children, the nurse case manager scheduled daily telephone contacts with the parents upon the child's discharge from the initial hospitalization. The objectives of these contacts were to make insulin adjustments, provide support to the family, and to start teaching self-management at the parents' pace. These parents were also referred to a 12-hour, 4-week, comprehensive course of diabetes education at the local Diabetes Society. Costs were borne by the program. Reinforcement of information learned in the class took place during clinic and telephone visits. The purpose of this study was to evaluate the effectiveness of this nurse case-managed program using measures of self-management, quality of life and self-efficacy.

Literature Review

Current programs for pediatric diabetes care in the literature are those at large, university-affiliated diabetes research and treatment centers or children's hospitals where the population of children with diabetes is large and programs are well developed (Anderson, Funnell, Barr, Dedrick & Davis, 1991; Boswell, Pickert & Penha, 1992; Grey et al., 1998). No studies of nurse case-managed programs for children with diabetes were found in the literature.

Case managed programs for in-patient and home health settings for many types of conditions have been in existence for many years. Case management as a process for managing

diabetic patients was proposed by Korn (1992). Korn describes this process as one that is adaptable to the patient's changing needs, focuses on long-term outcomes, and allows for high quality, cost-effective care.

While there are many different definitions of case management, the definitions have the following components in common: (a) patient-focused care, (b) a process composed of assessment, planning, intervention, monitoring and evaluation, (c) a comprehensive, coordinated program of care for individuals with similar conditions across a continuum of care, and (d) an interdisciplinary team approach to care (Donovan, 1994).

The specific components necessary to a case managed program according to this HMO include: (a) an organized, systematic, comprehensive program, (b) a team approach, (c) assurance of appropriate utilization of resources, and (d) education and counseling toward empowerment (HMO Case Management, Summary Report, 1995).

The concept of self-management is discussed in various ways in the literature but is not clearly defined. According to Travis (1987), management of diabetes in children encompasses maintaining glycemic levels as near to a non-diabetic level as possible while maintaining normal functioning and normal growth and development (Travis, 1987). Prevention of significant acute complications such as hypoglycemia and ketoacidosis and delay or prevention of chronic complications are also integral to effective management (Travis). In the past 10 years, the self-management model has replaced the previous compliance-based model. The American Diabetes Association (1997) does not specifically define self-management but infers that self-management education is a process whereby individuals learn to manage their diabetes rather than simply complying with a medical regimen. The American Association of Diabetes Educators (1993) infers that self-care involves the ability to accomplish specific tasks (such as monitoring blood

glucose levels and making adjustments to the timing of meals, insulin administration, and exercise for optimum glycemic control); while problem solving is considered a self-management skill (American Association of Diabetes Educators).

In a study of cognitive maturity and self-management among adolescents with diabetes (Ingersoll, Orr, Herrold, & Golden, 1986), the authors used self-care and self-management interchangeably and focused only on self-adjustment of insulin doses. A study of self-management training with newly diagnosed diabetic children focused on patients' use of blood glucose levels to initiate behavioral changes related to eating, exercise, and insulin dose (Delamater et al., 1990). In the program being evaluated in this study, self-management is defined in its broadest terms and includes all efforts by patients and families to maintain glycemic levels as close to the recommended (or self-selected) target levels as possible, depending on the child's age. Effective self-management is intended to prevent acute episodes of hypoglycemia and ketoacidosis and maintain normal functioning as close to a pre-diabetes state as possible.

Because of the complexity of the diabetes self-management regimen and the necessity to make lifestyle changes that often involve the whole family, the ADA refers to self-management education as the "cornerstone of treatment for all people with diabetes" (ADA, 1997, p. S67). The self-management education programs discussed in the literature acknowledge that education alone is not sufficient to effect the necessary lifestyle changes that result in effective self-management (Anderson et al., 1991; Grey, et al., 1998; Ingersoll et al., 1986; & Jacobson et al., 1990). The information must be presented in a way that considers the educational and psychosocial needs of the child and family, the family system and its dynamics (MacPhee, 1995;

Patterson, 1991), the developmental stage (Lipman, Difazio, Meers, & Thompson, 1989; Savinetti-Rose, 1994), and the cognitive maturity of the child (Ingersoll et al.).

In addition to self-management education for knowledge and skills, the importance of counseling to teach coping and adaptation skills is discussed in the literature. In a study of patient coping on adherence to a diabetic regimen among children and adolescents, ages 9 through 16, Jacobson et al. (1990) found that psychological maturity and ability to cope were predictive of adherence level over a 4- year follow-up period. Jacobson also found that subjects who adapted well initially had better adherence over the same period. A study of children with type 1 diabetes, ages 8 to 18, and their parents reported that coping styles of pre-adolescents (venting feelings) differed significantly from coping styles of adolescents (avoidance behaviors) (Grey, Cameron, & Thurber, 1991). This study stated that metabolic control deteriorates during the transition from pre-adolescence to adolescence and that those using avoidance behaviors were at highest risk for both psychosocial and metabolic problems. In a study of the effects of coping skills training for adolescents with diabetes, Grey et al. (1998) showed that the program resulted in a decrease in Hgb A1C values after only 3 months. The authors concluded that the improvements were not the result of intensified medical treatment, but that the adolescents who received the coping skills training found dealing with diabetes less difficult (Grey et al.).

In the past 10 years, studies have investigated empowerment education as a conceptual framework for teaching diabetes self-management. A basic assumption of the empowerment education philosophy is that knowledge does not come from experts who impress ideas on the learner, but that a collective knowledge emerges from a group sharing experiences and understanding the social influences that affect the individual's life (Wallerstein & Bernstein, 1988). The Michigan Diabetes Research and Training Center Education Committee has studied

empowerment for diabetes education (Funnell et al., 1991). In the empowerment education model, diabetes is considered to be a biopsychosocial illness, rather than a physical illness, and behavior changes are internally motivated (Funnell et al.). Empowerment is seen as an outcome when patients have the "knowledge, skills, attitudes and self-awareness necessary to influence their own behavior and that of others in order to improve the quality of their lives" (Funnell et al., p. 39).

Whether a patient is motivated to engage in positive health behaviors may be determined by the patient's belief in his or her ability to succeed in a skill or to meet self-selected goals. This belief is known as self-efficacy. Measures of a patient's self-efficacy may be a better predictor of behavior than success at a particular skill (Bandura, 1991). In a study of adolescents with type 1 diabetes, relationships were found between strong self-efficacy beliefs and perceptions of control (Grossman, Brink, & Hauser, 1987). The same study confirmed that self-efficacy beliefs were also associated with metabolic control (though the authors note that a clear causal relationship was not found). Increased self-efficacy is an integral part of an empowerment education program. Therefore, a measure of self-efficacy is included in the study.

The complex diabetes management regimen that requires problem solving and decision-making many times each day greatly affects the quality of life of the child with diabetes and the family. Quality of life was recognized as a central outcome measure of diabetes management in the landmark Diabetes Control and Complications Trial (Diabetes Control and Complications Trial Research Group, 1993) and has been included in this evaluation study as a variable.

Based on the literature, the studied program includes a case-managed model of care to provide a comprehensive continuum of care and to focus on the long-term outcomes of this chronic condition. For this evaluation study, self-management is defined as the ability to manage

self-care skills (e.g., blood glucose testing, administering insulin, and monitoring the results of testing) and problem-solving skills (e.g., determining when and how to make adjustments to insulin doses depending on meals, activity level, and other life-style considerations).

Research Design and Methodology

Research Design

This study, an evaluation of the comprehensive diabetes care model, used a quasi-experimental design. The research question asks: Did this comprehensive nurse case-managed model of care improve self-management of children with diabetes? The independent variable was the nurse case-managed model of care. The dependent variable was self-management of children with diabetes (management of young children by their parents and, in some cases, self-management by older adolescents). Self-management was operationalized through three concepts: glycemic control, quality of life, and self-efficacy (see Table 1 for description of measures). An attempt to recruit a control group from within the HMO was unsuccessful. Therefore, the study group's previous 12-months of care was compared with the study data. At the beginning of the program, information about the program was mailed to all parents with children who have type 1 diabetes in the studied service area ($n=128$). The information packet included questionnaires regarding quality of life and self-efficacy. Questionnaires were coded to maintain confidentiality of the respondent.

Subjects and Setting

The subjects were 56 children with type 1 diabetes who are 17 years or younger and who were members of one HMO customer service area which includes three of the HMO's medical centers (see Table 2 for further description of the subjects). At the start of the one year intervention in July 1997, there were 51 participants. New referrals to the program during the

study, changes in diagnoses from type 1 to type 2, newly diagnosed children, and a departure from the health plan resulted in a study group of 56. Institutional Review Board approval was obtained prior to start of the study.

The HMO is located in an urban, predominantly high-technology area. Most families consist of two working parents or single-parent families who are juggling heavy workloads with parenting in a high stress environment (e.g., high cost of living, fast-paced living, and traffic congestion often in long commutes). Many families have no extended family nearby to provide support, and obtaining adequate child care is often difficult. The diagnosis of diabetes poses an extremely difficult challenge to most families and, to some, a true crisis requiring extensive support and counseling.

Measurement

Glycemic Control. Glycemic control was measured in two ways: through laboratory measures of glycosylated hemoglobin (Hgb A1C) which are usually done every 3 to 6 months in children with diabetes; and through episodes of hypoglycemia or ketoacidosis which required emergency department use or hospitalization.

The glycosylated hemoglobin was measured through high performance liquid chromatography at a common regional laboratory. The preintervention Hgb A1C was the mean value of such measures taken within 3 months of the subject's first intervention. The postintervention Hgb A1C was the mean value taken 6 or more months after the subject's first intervention. (Most subjects did not have 12 months of the intervention.) The preintervention mean Hgb A1C was calculated for the 1 year period prior to each subject's first intervention as a measure of baseline glycemic control. A total of 38 subjects had both baseline and postintervention Hgb A1C values and had induction time of at least 6 months postintervention. A

paired-comparison t test was calculated to determine if there was a significant difference between the pre- and postintervention means.

Although the study subjects were the children with diabetes, pre- and postintervention questionnaires were designed for the parents' response. The wide age range of the subjects (14 months to 17 years) would have required a separate set of questionnaires for the adolescents and this was not feasible given time and resource constraints.

Quality of Life. A Quality of Life Parent Questionnaire was adapted from the Diabetes Quality of Life (DQOL) measurement instrument developed for the DCCT for use by adolescents and adults (DCCT Research Group, 1988). The original instrument included 46 items relating to quality of life from three different perspectives: patient satisfaction with himself or herself, impact of diabetes on the patient's life, and worries (both about the effects of diabetes, and social and vocational concerns). Questions in the "satisfaction" scale related to the parents' satisfaction with how well they believe they manage their child's treatment, their knowledge of diabetes, and the parents' perception of how satisfied the child feels about himself or herself. The "impact" scale measures the parents' perception of how much diabetes impacts their life. The "worry" scale measures parents' diabetes-related worries. The 40-item adapted instrument excludes the social and vocational worries subscale to eliminate questions meant for adults and for ease of answering. Reliability and validity are reported elsewhere, but not included here since this study used an adaptation of the original DQOL. Parents were asked to select responses on a 5-point Likert scale. Paired t tests were used to compare pre- and postintervention changes. For subjects who were diagnosed or referred during the study, the postintervention survey took place at the end of the study, but less than 1 year from the preintervention survey.

Self-efficacy. A 13-item Self-Efficacy for Diabetes Parent Questionnaire was adapted from a self-efficacy for diabetes (SED) scale developed for use with adolescent girls and boys with type 1 diabetes (Grossman, Brink, & Hauser, 1987). The SED is a 35-item scale developed to measure adolescents' perception of their ability to manage their condition. The 35-item scale is composed of three subscales: diabetes-specific self-efficacy, self-efficacy for medical situations, and self-efficacy for situations not related to diabetes. Many questions were excluded because the adapted version was administered to parents rather than to the adolescents; therefore, validity and reliability of the original instrument were not applicable. In the adapted version, parents were asked to respond on a 6-point Likert scale ("very sure I can't" to "very sure I can").

Results

Description of Sample

The sample included 56 children ranging in age from 14 months to 17 years (Table 2). Most of the children were girls (55%) and the duration of the sample's diabetes ranged from newly diagnosed to 12 years. Although demographic information was not collected from the subjects, the ethnicity approximated the population served (66% Caucasian, 6% African-American, 10% Asian, and 18% Hispanic). Most subjects were on a regimen of two to three injections daily with testing three to four times daily. Fifteen of the 56 subjects (27%) were receiving care from pediatric generalists, while 41 subjects (73%) were receiving care from a pediatric endocrinologist.

Self-management

Hgb A1C is an indicator of blood glucose control over the previous 3 months. A level of 8.0% is generally accepted as a target for children that considers balancing the risks of long-term complications with the immediate risks of hypoglycemia (Guttman-Bauman, Flaherty, Strugger,

& McEvoy, 1998). There was a small improvement in the mean Hgb A1C from preintervention (9.15%, SD 2.32) to postintervention (8.99%, SD 1.79) even with the short duration of the study (Table 3). However, this pre-post comparison was not statistically significant. The hospital and emergency department utilization data were too few in number to be analyzed.

Quality of life

There were 30 families who responded to both pre- and postintervention quality of life surveys with usable questionnaires. A total quality of life was computed as well as the subscales for satisfaction, impact, and worry. There were improvements in mean scores for all four measures, but paired t tests did not reach statistical significance.

Self-efficacy

Parents' self-efficacy scores measured their belief that they could manage all of the self-care and problem-solving skills required. The change in scores from preintervention ($M=56.17$) to postintervention ($M=59.33$) was statistically significant ($p=.01$), even with the short duration of the study (higher scores indicate higher self-efficacy).

Discussion

The improvement of all self-management measures, even though some did not reach statistical significance, is clinically important. This was a pilot program using newly developed interventions delivered by a newly established team, and the subjects varied greatly in age, duration of diabetes, and knowledge base. Gains in self-management measures were expected to be small since changes in lifestyle, attitudes, and beliefs take time. The postintervention Hgb A1C level of 8.99%, though an improvement in glycemic control, is higher than the 8% level that is generally accepted for children and adolescents with diabetes. Subjects had greatest improvements (more positive scores) in the "satisfaction" and "impact" scales of the quality of

life measure; the two scales that the authors of the original instrument suggest are broad indicators of diabetes-related quality of life (DCCT Research Group, 1988).

The improvement in quality of life and self-efficacy scores over this short-duration study is important, but the reasons for the improved scores are beyond the scope of this study. It could be that the education, counseling, and group support (which many of the families had never had) did contribute to the increases in these two measures. It may also be that many parents had never thought about the issues raised in the surveys and these questions may have stimulated values clarification thinking, a concept essential to empowerment education. The group education, counseling, and support may have helped the children and parents see their lives as similar to many others, and this may have provided an increased sense of well-being, satisfaction, and self-efficacy as reflected in higher postintervention scores.

This nurse case-managed model provided the components necessary to a case-managed program according to the HMO: (a) an organized, comprehensive program; (b) a multidisciplinary team approach; (c) appropriate utilization of resources; and (d) education and counseling toward empowerment. It provided a program of care to a small, but service-intensive population. The improvements shown in quality of life and self-efficacy over this short period are encouraging in that these are measures that have been found to be related to adherence to the complex regimen imposed by diabetes (Guttmann-Bauman, Flaherty, Strugger & McEvoy, 1998; Leonard, Skay & Rheinberger, 1998) and therefore should result in improved glycemic control over time.

Challenges of implementing this model include developing new ways to provide education and group support to the families who were not able to participate due to family scheduling problems and language barriers. It was surprising that a few parents of newly

diagnosed children could not attend the comprehensive diabetes education class that was funded through the program. Reasons given by parents included lack of childcare, conflicts with work, and parents' continuing education.

This model can be replicated in other HMOs or medical groups that have small populations of children with diabetes living in a wide geographic area. However, the results cannot be generalized to other populations due to the small sample size. The lack of a control group also limits the study. Implementation of the model and replication studies would be very valuable in extending the findings of this study.

This model presents an opportunity for nurses to provide comprehensive care to a service-intensive population who will benefit (according to the ADA) from improved self-management. It provided a focus on education and counseling toward empowerment to an extent not possible in the traditional medical model. This model of care can be applied to children with other chronic conditions in which self-management is paramount, such as asthma.

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Table 1

Self-management

Concepts	Measures
Glycemic control	<ul style="list-style-type: none"><li data-bbox="561 464 1081 493">• Glycosylated hemoglobin (Hgb A1C)<li data-bbox="561 541 1377 646">• Hypoglycemic or ketoacidotic episodes requiring emergency department use or hospitalization.
Quality of life	<ul style="list-style-type: none"><li data-bbox="561 695 1073 724">• Diabetes quality of life questionnaire
Self-efficacy	<ul style="list-style-type: none"><li data-bbox="561 772 1101 802">• Self-efficacy for diabetes questionnaire

Table 2

Description of subjects (n=56)

	Mean	Range
Age (years)	9.8	1.33-17
Duration of diabetes (years)	3	0.1-12.8

	Female	Male
Gender (number and percent)	31 (55%)	25 (45%)

Table 3

Changes in Self-management Measures After Interventions

	<u>Preintervention</u>	<u>Postintervention</u>	<u>p-value</u>
	<u>Mean (S.D.)</u>	<u>Mean (S.D.)</u>	
Glycemic control (n=38)	9.15 (2.32)	8.99 (1.79)	.73
Quality of life total score (n=30)	101.67 (17.59)	105.50 (12.46)	.07
Satisfaction	38.67 (7.12)	40.50 (6.32)	.08
Impact	44.23 (9.49)	45.93 (5.60)	.14
Worry	18.77 (4.39)	19.07 (3.05)	.62
Self-efficacy (n=30)	56.17 (7.72)	59.33 (6.86)	.01*

Note: Paired t tests were used for comparisons.

*Statistically significant