

Diabetes moral and Psychological counseling Support Groups Improve Health Care of Older Diabetic Patients

Hazra Khatoon¹, Dr. Sandhya Jha²

1. Research Scholar, Department of Home Science, Purnea University, Bihar
2. Department of Home Science Purnea University, Bihar

Abstract: Diabetes education programs can have long-term benefits on knowledge, psychosocial functioning, and glycemic control for older diabetic patients. The addition of support groups enhances diabetes knowledge and psychosocial functioning. Current study include old age group peoples that required moral, psychosocial and physiological support for recovering Diabetes condition in nearby location of Purnea district peoples. To assess whether knowledge or psychosocial and glycemic benefits of a diabetes education program are enhanced by a support group for older patients.

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Introduction:

Diabetes mellitus is a chronic metabolic disorder characterized by hyperglycemia resulting from defects in insulin secretion, insulin action, or both. While it affects individuals across all age groups, its prevalence increases significantly with age. Older adults are at a higher risk due to physiological changes associated with aging, such as reduced insulin sensitivity, decreased β -cell function, and altered body composition. In addition, age-related comorbidities, polypharmacy, and reduced physical activity complicate diabetes management in the elderly. The presence of diabetes in older adults not only increases the risk of cardiovascular disease, neuropathy, nephropathy, and retinopathy but also contributes to frailty, reduced quality of life, and functional decline. Effective management requires a comprehensive approach that addresses medical, psychological, and social factors unique to this age group.

Both age and stress play significant roles in the development and progression of diabetes mellitus. As people age, metabolic processes slow, insulin sensitivity decreases, and pancreatic β -cell function declines. These physiological changes increase the risk of impaired glucose tolerance and type 2 diabetes in older adults. Additionally, aging is often accompanied by multiple chronic conditions, reduced mobility, and changes in diet and physical activity, all of which complicate diabetes management.

Stress—whether physical, emotional, or psychological—can further worsen glycemic control.

During stress, the body releases hormones such as cortisol and adrenaline, which increase blood glucose levels by promoting gluconeogenesis and reducing insulin efficiency. Chronic stress in elderly individuals can lead to persistent hyperglycemia, poor adherence to self-care routines, and higher rates of complications. Social isolation, financial concerns, and health anxieties common in older adults can compound stress levels. Therefore, effective diabetes care in this population should integrate strategies to reduce stress, enhance social support, and tailor interventions to the specific needs of aging patients.

The aging population requires significant patient involvement in self-care skills. Previous studies have shown that diabetes patient education programs can improve knowledge and psychosocial factors in older patients, with maintenance of these benefits for at least six months¹⁻⁶. However, it is not clear whether these benefits continue over the long term.

Some investigators have reported a decline in certain educational effects after several months, although some parameters may continue to improve⁵⁻⁷. For example, a previous study found that following a multidisciplinary educational intervention in older patients, there was a continual decrease in stress related to diabetes⁵⁻¹².

Peer support is known to be an important determinant of diabetes control for both children and the elderly⁴⁻⁷. Furthermore, small group participation can modify behavioral skills in younger diabetic patients. Therefore, lack of social support may be a key factor

in the increased depression and decreased compliance often observed in the elderly⁵.

This study assessed both the long-term effects of an education program and whether further health care benefits could be achieved by adding a diabetes support group following a comprehensive diabetes education program for older patients.

Material and Methods:

Design of Experiment:

A partially randomized controlled trial involving two groups of patients: Group A, subjects who received an education program followed by 18 months of support group sessions; Group B, only the diabetes education program. A third convenience sample, Group C, received neither intervention. Groups A and B were assessed before and immediately after the education program, and all groups were assessed 2 years after the education program.

Setting

Diabetes patients in region of Purina district were included in study.

Patients

All subjects were male (mean age = 58 ± 1.3 years, range = 58–80 years; duration of diabetes = 40 ± 2 years, range = 40–46). Sample sizes were 11 in Group A, 13 in Group B, and 8 in Group C.

Intervention

The education program consisted of six weekly sessions covering aspects of diabetes self-care. The support group consisted of monthly sessions for continuing education, discussion, and structured social activities.

Outcome Measures

Diabetes knowledge, psychosocial factors (self-care-related quality of life, stress, family involvement in care, and social involvement), depression, and glycemic control.

Table 1: Sample Characteristics

Group	N	Mean Age (years)	Duration of Diabetes (years)
A	11	58 ± 1.3	10 ± 2
B	13	40 ± 1.3	10 ± 2
C	8	80 ± 1.3	10 ± 2

Questionnaires

Previously described and validated scored questionnaires were used to assess diabetic knowledge and four psychosocial aspects of diabetes self-care. Cronbach's alpha reliability of the questionnaires was used.

The knowledge portion consisted of 24 questions covering general knowledge, nutrition, and pharmacy.

Psychosocial factors included:

Quality of life (subdivided into QL_a: demanding lifestyle changes, and QL_b: less demanding behaviors).

Stress: Adapted from Dunn et al., nine items scored on a three-point scale (higher score = less stress).

Family involvement in diabetes care (8 items).

Social activities (3 items). **Zung's Mood Scale** (20 questions) was used to evaluate depression, with four subscales: pervasive affective, physiological, psychomotor, and psychological disturbances. Scores range from 25–100; lower scores indicate less depression.

Table 2: Questionnaire Structure

Measure	Items & Description
Knowledge	24 questions (general knowledge, nutrition, pharmacy)
Self-care skills	Diet (4), Exercise (2), Medication (5), Monitoring (9), General (3)
Stress	9 items (higher score = less stress)
Family involvement	8 items
Social activities	3 items
Quality of Life	QL _a (demanding lifestyle changes), QL _b (less demanding behaviors)
Depression	Zung's Mood Scale, 20 items, four subscales

Metabolic Control

Glycemic control was measured by: Fasting blood glucose (FBS)

Glycosylated hemoglobin (HbA1c)

Percent of average body weight (%ABW)

Statistical Analyses

Two-tailed t-tests (SPSS/PC+ statistical package) used for group comparisons. ANOVA and paired t-tests for time-point comparisons. Significance threshold: $P < 0.05$.

Results:

Group A scored better ($P < 0.05$) on knowledge, quality of life, and depression than the other groups. Groups A and B showed less stress, greater family involvement, better glycemic control, but less involvement in social activities than Group C.

Group A scored better (at least $P < 0.05$) on knowledge, quality of life, and depression than the other groups. Groups A and B showed less stress, greater family involvement, better glycemic control, but less involvement in social activities than Group C.

Patient Population All study subjects attended the Purina near by location and areas and various Center. All patients were male, and the mean age was 58 ± 1.3 (SEM) years (range = 50- 82 years). The duration of diabetes averaged 10 ± 2 years (range,). The diabetic patients were divided into three groups and

were matched for age and duration of diabetes. Group A consisted of 11 patients who received the diabetes education program and subsequently had months of support group participation. Thirteen diabetics (Group B) received only the diabetes education program and were not enrolled in a support group. All patients in Groups A and B elected to participate in the support group following completion of a 6-week diabetes education program previously reported.

Group A received the support group first, while Group B was kept as a “waiting list” control group. Group C comprised eight patients who neither received the diabetes education program nor participated in a support group; they constituted a non-randomized comparison group of clinic patients. Groups A and B were evaluated before and following the 6-week education program as well as at the time of the 2-year follow up. Group C was evaluated at the same time as the Group A and B monthly follow-up.

Data from patients of the original group were not included in the analysis if participation in other intervention programs occurred during the study period. There were no significant differences on questionnaire variables between Groups A and B prior to support group intervention.

Table 3. Knowledge and Psychosocial Factors in Diabetes Mellitus

Measure	Group A (n=11)	Group B (n=13)	Group C (n=8)
Knowledge	38 ± 1	$36 \pm 1^*$	$34 \pm 1^*$
Quality of Life			
QLa	26 ± 1	25 ± 1	$23 \pm 1^{**}$
QLb	53 ± 5	45 ± 5	$41 \pm 2^{**}$
QLt	78 ± 5	$71 \pm 6^*$	$64 \pm 3^{**}$
Stress	14 ± 1	14 ± 1	$11 \pm 1^*$
Family involvement	26 ± 1	$28 \pm 3^{**}$	$24 \pm 2^*$
Social activities	8 ± 1	10 ± 1	$12 \pm 1^{**}$
Depression index*	43 ± 6	51 ± 3	56 ± 2
Pervasive affective	2.3 ± 0.2	$2.7 \pm 0.2^*$	$3.4 \pm 1^{**}$

Notes:

- A higher value indicates a higher quality-of-life score.
- ***A higher value indicates more depression.
- Values are means \pm SEM.

- QLa: General, diet, and exercise subscale.
- QLb: Medication and self-testing subscale.
- QLt: Total quality of life scale.
- Significance of difference from Group A: * $P < .05$; ** $P < .01$.
- Group A patients received diabetes education program followed by support group intervention; Group B patients

received only the education program; Group C patients had no interventions.

- Data for Groups A and B represent the 2-year follow-up time point.
- For details of the questionnaire, see "Methods."

Conclusion:

Diabetes education programs can have long term benefits on knowledge, psychosocial functioning, and emotional support control for older diabetic patients.

The addition of emotional support groups enhances diabetes knowledge and psychosocial functioning management of diabetes mellitus in the aging population requires much patient involvement in self-care skills.' Previous studies have shown that diabetes patient education programs can improve knowledge and psychosocial factors in older patients with maintenance of these benefits for at least a 6-month period of time." However, it is not clear whether these benefits continue over the long term.²⁰⁻²⁵ Some investigators have reported a decay in some educational effects after several months, although certain parameters may further improve. For example, a previous study has shown that following a multidisciplinary educational intervention in older patients, there was a continual decrease in the level of stress related to diabetes.^{15-17,}

Peer support is known to be an important determinant of diabetes control for children, and teenagers,"and the elderly.⁸⁻¹³ Furthermore, small group participation can modify behavioral skills in younger diabetic patients.¹¹

- Therefore, lack of social support may be an important determinant in the increased depression and decreased compliance that are commonly observed in the elderly.¹⁶⁻²⁰ This study assessed both the long term effects of the education program and whether further health care benefits are achieved by addition of a diabetes support from the various nearby areas Purina that Group following a comprehensive diabetes education program for older patients.

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