WHIOCE PUBLISHING PTE. LTD.
PROVIDING
FIRST-CLASS SCIENTIFIC INFORMATION
FOR TOP SCHOLARS

2026 Volume 11, Issue 3
Advances in Precision Medicine
ISSN: 2424-9106 (Online)
ISSN: 2424-8592 (Print)

A Study on the Effect of Nurse-Patient Communication in the Nursing of Elderly Diabetic Patients and Its Impact on Improving Patients' Condition

Jun Gu[1], Jinmei Ke[2*]

[1]Nantong Social Welfare Institute, Nantong 226000, Jiangsu, China

[2]Zilang Hospital of Nantong City, Jiangsu Province, Nantong 226006, Jiangsu, China

Author to whom correspondence should be addressed.

Abstract: *Objective:* To analyze the effect of nurse-patient communication in the nursing care of elderly diabetic patients and its impact on improving patients' condition. *Methods:* A total of 72 diabetic patients admitted to our hospital from August 2023 to August 2025 were enrolled and divided into two groups by random sampling. The control group received routine nursing, while the observation group was additionally given nurse-patient communication. The differences in blood glucose control, self-management ability and quality of life between the two groups were compared. *Results:* After nursing, the blood glucose levels (fasting blood glucose, glycosylated hemoglobin and 2-hour postprandial blood glucose) in the observation group were lower than those in the control group ($P < 0.05$). Compared with before nursing, the scores of T2-CSO and GQOLI-74 in both groups were increased after nursing, and the increase in the observation group was more significant ($P < 0.05$). *Conclusion:* Nurse-patient communication can effectively improve the condition of elderly diabetic patients, help strengthen blood glucose control, enhance self-management ability and improve quality of life.

Keywords: Nurse-patient communication; Elderly diabetes; Blood glucose; Nursing effect; Condition improvement

Online publication: March 26, 2026

1. Introduction

Diabetes mellitus is a chronic metabolic disease induced by the combined effects of multiple factors, including genetic susceptibility, environmental factors and obesity. Its core pathogenesis is persistent hyperglycemia resulting from decreased insulin sensitivity and impaired β-cell function [1]. Long-term metabolic disorders can damage multiple organs; during the disease course, the retina, kidneys, nerves, and cardiovascular and cerebrovascular systems are frequently involved, significantly increasing the risk of cardiovascular events and multiple organ dysfunction. Elderly diabetic patients exhibit great individual differences, often accompanied by multiple chronic diseases and cognitive decline. Blood glucose regulation is more complicated due to physical and metabolic conditions, which further increase the treatment burden and adversely affect quality of life and prognosis [2]. Statistics show that the prevalence rate is approximately 28.8% among people aged 60–69 years and 31.8% among those aged 70 years and above [3]. In addition to medication, diabetes

treatment requires long-term patient cooperation in diet, exercise, blood glucose monitoring and psychological adjustment. Effective nurse-patient communication can enhance patients' understanding and compliance, thereby promoting their active participation and self-management and improving nursing outcomes. Relevant studies have shown that positive communication helps alleviate negative emotions such as anxiety and depression, improve psychological status and enhance self-care ability [4]. This study investigates the impact of enhanced nurse-patient communication on the basis of routine nursing on blood glucose, self-management ability and quality of life in diabetic patients.

2. Materials and methods

2.1. General data

A total of 72 patients with diabetes mellitus were enrolled as research subjects and divided into two groups by a random sampling method (n = 36). There were no statistically significant differences in general data between the two groups ($P > 0.05$), as shown in **Table 1**.

Table 1. Comparison of general data [mean ± standard deviation (SD), cases (n)]

Group	n	Male/Female	Age (years)	Course of disease (years)	Type 1 / Type 2	Body mass index (kg/m²)
Observation group	36	20/16	63.98 ± 7.22	4.43 ± 0.91	2/34	24.23 ± 2.41
control group	36	23/13	61.71 ± 8.44	4.19 ± 0.73	1/35	23.86 ± 2.67
t/χ^2		0.520	1.226	1.234	0.293	0.617
P		0.471	0.224	0.221	0.589	0.539

2.2. Inclusion and exclusion criteria

Inclusion criteria: (1) Met the diagnostic criteria for diabetes mellitus [5]; (2) Aged ≥ 60 years old, conscious, and able to cooperate with the investigation and nursing intervention; (3) With complete clinical data; (4) Signed informed consent.

Exclusion criteria: (1) Complicated with severe cardiac, cerebral, hepatic or renal dysfunction, or malignant tumor; (2) Accompanied by severe mental disorders or cognitive impairment, unable to communicate and evaluate normally; (3) Experienced acute complications in the recent period, such as ketoacidosis, hyperosmolar coma, etc.; (4) Complicated with other severe diseases that affect blood glucose management or quality of life; (5) Poor compliance and failed to complete nursing as required.

2.3. Methods

The control group received routine nursing care:

(1) Medical staff formulated basic diet and medication plans according to patients' conditions, instructed patients to take medications regularly as prescribed, and supervised medication administration to avoid missed doses or unauthorized dose adjustment.

(2) Patients were guided to conduct scientific diet management. On the basis of retaining daily eating habits, dietary structure was adjusted to control total daily calorie intake, reduce consumption of carbohydrates, fats and high-salt foods, and encourage intake of fresh fruits and vegetables, low-sugar foods and coarse grains. Small and frequent meals as well as a light diet were recommended.

(3) Appropriate exercise regimens were formulated according to patients' age, physical strength and disease conditions. Patients were guided to adhere to regular exercise to improve insulin sensitivity, and were reminded to pay attention to exercise intensity and duration to prevent hypoglycemia or fatigue discomfort.

(4) During nursing care, blood glucose, glycosylated hemoglobin and other indicators were monitored regularly, blood glucose control was evaluated on time, and suggestions on diet, activity and medication were adjusted accordingly.
(5) Diabetes health education was provided for patients, including disease knowledge, diet control, exercise management, blood glucose monitoring and complication prevention, to enhance their self-care awareness and health management ability. The learning effect was strengthened through forms such as publicity, lectures or peer communication.
(6) Patients were instructed to perform proper foot care and skin protection, observe blood pressure, blood lipid and other related indicators, identify risks early, and prevent the occurrence of diabetic foot, cardiovascular and other complications.

Observation Group: Additional Nurse-Patient Communication:

(1) Nursing staff received patients with a friendly attitude, offered active greetings, listened patiently, and spoke in a gentle tone to shorten psychological distance. They learned about patients' medical history, personality traits, hobbies, and family conditions, and developed communication strategies tailored to different patients. For patients with obvious mood swings, they guided emotional expression in a gentle manner; for those with good cognitive function, emphasis was placed on condition explanation and shared decision-making. Non-verbal communication, such as smiling, nodding, and appropriate physical contact, was used to enhance trust, enabling patients to gain a sense of security and support during hospitalization.
(2) Patients' anxiety, depression, and treatment resistance were observed. Listening, empathy, and encouraging language were adopted to relieve psychological pressure or provide psychological counseling, helping patients correctly understand their disease and the importance of long-term management, boosting treatment confidence, and preventing emotional factors from affecting blood glucose control and compliance.
(3) Through face-to-face explanations, health education leaflets, and small lectures, diabetes-related knowledge was popularized to patients and their families, including pathogenesis, the significance of blood glucose monitoring, complication prevention, medication administration, and key points of self-management. Meanwhile, easy-to-understand language was used, combined with graphic demonstrations of the correct use of blood glucose meters, guiding patients to record blood glucose changes and improving their disease cognition and active management ability.
(4) Individualized dietary plans were formulated jointly with nutritionists, clarifying food selection, cooking methods, and meal principles, emphasizing low-oil and low-fat diets, restricted intake of sugar and animal offal, and advocating small, frequent meals with fixed timing and quantity. Dietary compliance was evaluated 2–3 times per month with follow-up corrections. For patients with resistance, the necessity of diet control was explained through patient communication to standardize dietary behavior and stabilize blood glucose.
(5) Appropriate exercise plans were formulated according to patients' age, physical condition, and hobbies, such as walking, Tai Chi, jogging, and swimming, with emphasis on the role of exercise in improving blood glucose, body weight, and cardiovascular function. Nursing staff provided continuous follow-up and encouragement, and accompanied patients during short-term activities in the early stage to enhance persistence and initiative. Meanwhile, precautions before and after exercise and hypoglycemia prevention measures were discussed.
(6) The mechanism, usage, and possible adverse reactions of different hypoglycemic drugs and insulin were explained in detail to patients, guiding them to take medicine on time and in the correct dosage to avoid missed doses, wrong administration, or unauthorized dose adjustment. Nursing staff regularly checked implementation, communicated and solved problems on time, and offered affirmation and encouragement to improve medication compliance.

Both groups received continuous nursing care for 3 months, followed by 3 months of telephone follow-up after discharge.

2.4. Observation Indicators

(1) Blood glucose control: Fasting blood glucose (FBG) was measured by collecting 5 mL of venous blood on the next morning after at least 8 hours of fasting. The serum was separated by centrifugation at 3000 r/min for 10 minutes, and detected by the glucose oxidase method using an automatic biochemical analyzer (Mindray BS-800M). For 2-hour postprandial blood glucose (2hPG), after fasting blood sampling, patients orally took 75 g of glucose solution or had

a routine breakfast, and 5 mL of venous blood was drawn again 2 hours later with the same detection method. For glycosylated hemoglobin (HbA1c) determination, 5 mL of venous blood sample was collected and analyzed by high-performance liquid chromatography (HPLC).

(2) Self-management ability: The Type 2 Diabetes Self-Management Behavior Scale (T2-CSO) was used for evaluation before and after nursing. The scale consists of four dimensions: diet control, exercise implementation, blood glucose monitoring, and medication management. A 5-level scoring method was adopted, with a total score ranging from 26 to 130. A higher score indicates better self-management ability of patients.

(3) Quality of life: The Generic Quality of Life Inventory-74 (GQOLI-74) was used for assessment before and after nursing, covering four dimensions: physical function, psychological function, social function, and material life. Each dimension was scored on a 100-point scale, and an increase in the total score indicates improved quality of life.

2.5. Statistical Analysis

After data entry, statistical analysis was performed using SPSS 25.0 software. Enumeration data were described as n(%) and compared using the $\chi 2$ test. Measurement data were expressed as mean ± standard deviation (SD). After tests for normality and homogeneity of variance, the t-test was used to evaluate intergroup differences. The significance level for the two-sided test was set at $P < 0.05$.

3. Results

3.1. Blood glucose control

The blood glucose levels in the observation group after nursing were lower than those in the control group ($P < 0.05$). See **Table 2**.

Table 2. Comparison of blood glucose control (mean ± SD)

Group	n	Fasting Blood Glucose (mmol/L)		Glycated Hemoglobin (%)		2-hour Postprandial Blood Glucose (mmol/L)	
		Before Nursing	After Nursing	Before Nursing	After Nursing	Before Nursing	After Nursing
Observation group	36	9.65 ± 1.42	7.04 ± 0.93*	9.85 ± 1.33	7.46 ± 0.87*	11.23 ± 1.78	8.15 ± 1.41*
Control group	36	9.28 ± 1.26	7.61 ± 0.85*	9.42 ± 1.18	8.08 ± 0.92*	11.04 ± 1.59	9.28 ± 1.08*
t		1.169	2.714	1.451	2.938	0.478	3.817
P		0.246	0.008	0.151	0.005	0.634	< 0.001

Note: Compared with before nursing within the same group, *$P < 0.05$

3.2. Self-management Ability

Compared with before nursing, the T2-CSO scores of both groups were increased after nursing, and the increase in the observation group was more significant ($P < 0.05$). See **Table 3**.

Table 3. Comparison of T2-CSO scores (mean ± SD, scores)

Group	n	Before Nursing	After Nursing	t	P
Observation group	36	61.07 ± 6.54	78.51 ± 7.59	10.444	< 0.001
Control group	36	59.65 ± 5.23	70.13 ± 5.71	8.121	< 0.001
t		1.017	5.294		
P		0.313	< 0.001		

3.3. Quality of Life

Compared with the control group, the observation group had a higher GQOLI-74 score after nursing ($P < 0.05$). See **Table 4**.

Table 4. Comparison of GQOLI-74 scores (mean ± SD, scores)

Group	n	Psychological Function		Physical Function		Social Function		Material Life Status	
		Before Nursing	After Nursing	Before Nursing	After Nursing	Before Nursing	After Nursing	Before Nursing	After Nursing
Observation group	36	47.49 ± 8.41	70.09 ± 8.37*	46.16 ± 10.40	61.09 ± 6.07*	54.80 ± 7.89	71.98 ± 5.32*	50.76 ± 6.40	76.09 ± 8.06*
Control group	36	48.54 ± 7.37	64.88 ± 5.44*	47.03±9.78	55.25 ± 5.24*	53.75 ± 7.36	63.31 ± 5.47*	50.03 ± 7.08	66.25 ± 5.64*
t		0.563	3.131	0.366	4.370	0.584	6.817	0.459	6.002
P		0.575	0.003	0.716	< 0.001	0.561	< 0.001	0.648	< 0.001

Note: Compared with before nursing in the same group, *$P < 0.05$

4. Discussion

Diabetes mellitus is a chronic metabolic disease characterized by persistent hyperglycemia, which is closely associated with multiple metabolic disorders of glucose, lipids and proteins. It is mainly caused by insulin resistance and impaired β-cell function, among which type 2 diabetes accounts for approximately 95% of all cases [6]. Long-term hyperglycemia can lead to multisystem damage and induce complications such as retinopathy, diabetic nephropathy, neuropathy, and cardiovascular and cerebrovascular diseases. In severe cases, it may even progress to multiple organ dysfunction. Elderly diabetic patients often suffer from cognitive decline, reduced physical fitness, unreasonable dietary structure, and poor compliance, making their conditions more prone to fluctuation. Affected by financial pressure and long-term treatment stress, they generally lack sufficient self-management ability, making it difficult to achieve effective disease control and maintain quality of life. Therefore, clinical nursing should emphasize communication and interaction, understand patients' medical history, psychological status and behavioral habits, to formulate individualized nursing measures and implement comprehensive nursing from physiological, psychological, and social aspects. As a key link in improving nursing quality, nurse-patient communication helps medical staff obtain patients' real needs on time through verbal and non-verbal communication, strengthens patients' understanding of disease management knowledge, relieves negative emotions, and promotes the standardization of diet, exercise and medication behaviors, thereby improving disease conditions [7].

The present study showed that the blood glucose levels in the observation group were lower than those in the control group after nursing, and the scores of T2-CSO and GQOLI-74 were higher than those in the control group ($P < 0.05$), which is consistent with the findings of Shi Jingting [8]. This indicates that nurse-patient communication can strengthen blood glucose management and promote the improvement of quality of life.

Effective communication between nurses and patients helps to establish a good trust relationship, enabling patients to gain a sense of support and security during hospitalization. It can reduce psychological anxiety and stress levels, which is conducive to alleviating the negative impact of excessive sympathetic nerve excitation on blood glucose regulation, while improving treatment compliance. In addition, the in-depth understanding of individual differences during communication makes health education more targeted. Patients can accurately grasp the key points of blood glucose monitoring, diet control and exercise management, thus enhancing their awareness of self-management [9]. In medication management guidance, clear information transmission and compliance supervision were provided to patients, deepening their understanding of the necessity and safety of treatment, reducing irrational medication behaviors, which helps to lower blood glucose levels and improve quality of life [10].

5. Conclusion

In summary, nurse-patient communication in the nursing care of elderly diabetic patients can improve patients' understanding of disease knowledge and management strategies, promote the standardized implementation of diet, exercise and medication behaviors, thereby improving blood glucose control and enhancing self-management ability. Active interaction and emotional support optimize patients' psychological and living status, significantly improving their quality of life, reflecting the positive role of nurse-patient communication in ameliorating disease conditions and nursing outcomes.

Disclosure statement

The author declares no conflict of interest.

References

[1] Kang QW, Li XL, Zhao W, et al., 2025, Effect of Dapagliflozin Combined With Semaglutide in the Treatment of Elderly Type 2 Diabetes Mellitus and Its Influence on Islet Function, Serum Inflammation, FFA and PPARγ Levels. Chinese Journal of Gerontology, 45(14): 3340–3343.

[2] Li Y, Li SY, 2025, Diagnosis and Treatment Strategies for Elderly Diabetic Patients in China. Geriatrics & Health Care, 31(2): 312–316.

[3] Ren J, Lu B, 2025, Key Points of Diagnosis and Treatment and Strategic Innovation of Elderly Diabetes Under the Guidance of Guidelines for the Diagnosis and Treatment of Elderly Diabetes in China (2024 Edition). Chinese Journal of General Practice, 23(11): 1825–1829.

[4] Zheng YY, 2024, Analysis of the Effect of Nurse-Patient Communication in Nursing Elderly Diabetes and Its Impact on Improving Patients' Condition. Diabetes New World, 27(19): 114–118.

[5] Diabetes Society of Chinese Medical Association, 2024, Guidelines for the Prevention and Treatment of Diabetes in China (2024 Edition). Chinese Journal of Diabetes Mellitus, 16(9): 801–857.

[6] Liu HJ, Han JW, Wu HJ, 2025, Influence of Glucose and Lipid Metabolism and Inflammation on the Incidence of Diabetic Nephropathy in Island Areas. Clinical Medicine Research and Practice, 10(5): 13–16.

[7] Bian YH, Zou ZZ, 2024, Effect of Nurse-Patient Communication in Nursing Elderly Diabetes and Its Impact on Improving Patients' Condition. Medical Information, 37(S01): 37–39.

[8] Shi JT, 2022, Study on the Application Effect of Nurse-Patient Communication Mode in Nursing Elderly Diabetic Patients. Chinese Health Care, 40(18): 91–94.

[9] Yang WF, Wu RY, Yang L, 2025, Analysis of the Influence of Nurse-Patient Communication on Nursing Effect and Condition Improvement of Elderly Diabetic Patients. The Medical Forum, 29(25): 139–142.

[10] Xu KH, 2023, Analysis on the Application Effect of Nurse-Patient Communication in Nursing Elderly Diabetic Patients. Contemporary Medical Symposium, 21(24): 178–181.