

Research on the Effect of Humanistic Nursing Care on Elderly Type 2 Diabetes Mellitus Patients

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Abstract: *Objective:* To explore and analyze the effect of humanistic nursing care on elderly type 2 diabetes patients. *Methods:* 100 elderly patients with type 2 diabetes who were treated in our hospital from May 2021–May 2023 were selected for this study. The patients were divided into an experimental group and a reference group by flipping a coin, with 50 cases in each group. The experimental group received humanistic nursing care, while the reference group received routine nursing care. The blood glucose level, compliance and nursing satisfaction were compared between the two groups. *Results:* Before the intervention, there was no statistically significant difference between the groups in pre-meal blood glucose, blood glucose 2 hours after eating, and glycosylated hemoglobin ($P > 0.05$). After the intervention, pre-meal blood glucose, blood glucose 2 hours after eating, and glycosylated hemoglobin in the humanities group were significantly better than those in the reference group ($P < 0.05$). Besides, before the intervention, there was no statistically significant difference in compliance with diet, medication, examination, and exercise between the groups ($P > 0.05$). After the intervention, the compliance with diet, medication, examination, and exercise in the experimental group was significantly better than that of the reference group ($P < 0.05$). The patients in the experimental group were significantly more satisfied with the nursing care received than the reference group ($P < 0.05$). *Conclusion:* Humanistic nursing care can reduce blood sugar in elderly patients with type 2 diabetes, strengthen treatment compliance, and improve satisfaction.

Keywords: Humanistic care and nursing; Elderly type 2 diabetes mellitus; Effect

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1. Introduction

Diabetes is a systemic chronic disease of the human body. The morbidity and mortality of this disease are on the rise all over the world, and it is a disease that has a very significant impact on the human body^[1]. Diabetes can be divided into type 1 and type 2 diabetes. The latter is more common in clinical practice, and it is also more prevalent among the elderly. In recent years, the number of middle-aged individuals diagnosed with type 2 diabetes has been increasing, with a noticeable trend toward younger ages^[2]. Diabetes is a disease that requires lifelong treatment, and the main goal of treatment is to lower the patients' blood sugar. Secondly, it is necessary to actively prevent and control complications because complications are the leading cause of death in diabetes^[3]. Humanistic nursing care is a new nursing model that can provide patients with two-way nursing measures to

meet individual needs^[4]. The purpose of this paper is to study and analyze the effect of humanistic nursing care in elderly type 2 diabetes patients.

2. General information and methods

2.1. General information

A hundred elderly patients with type 2 diabetes treated in our hospital from May 2021–May 2023 were selected for this study. The patients were divided into an experimental group and a reference group by coin toss, with 50 cases in each group. In the humanities group, there were 28 males and 22 females, with an age range of 64–88 years and an average age of 76.21 ± 1.22 years. The duration of the disease in this group ranged from 1 to 6 years, with an average duration of 3.55 ± 0.34 years. In the reference group, there were 29 males and 21 females, with an age range of 64–87 years and an average age of 76.41 ± 1.35 years. The disease duration in the reference group ranged from 1 to 7 years, with an average disease duration of 3.63 ± 0.42 years. There was no statistically significant difference in general information such as gender, age, and course of disease between the groups ($P > 0.05$).

Inclusion criteria: (1) Diagnosed with type 2 diabetes, (2) signed an informed consent.

Exclusion criteria: (1) history of mental illness, (2) history of type 1 diabetes mellitus.

2.2. Methods

The reference group received routine nursing care: medication, diet, and lifestyle guidance.

The experimental group underwent humanistic nursing care: (1) A humanistic nursing care team was established. Literature was consulted to collect relevant data and the team members were trained on humanistic nursing care and evaluated after the training. (2) Formulation of nursing plan: the clinical data of the patients were collected, the patients conditions were understood, and nursing plans were formulated according to the patient's condition. (3) Counseling: The patients' emotions were observed throughout communication with them and during hospitalization. The patient's psychological state was analyzed, and the patient's inner activities were understood. The reasons for the occurrence of the patient's bad mood were summarized. Emotional counseling was provided to the patient to change their mood, and disease knowledge was introduced. A psychological defense line was built for the patient, and the patient's self-confidence was enhanced. (4) Diet management: The patient's carbohydrate intake was limited, and the intake of protein and cellulose was increased. An effort was made to encourage a light diet, and strict limitations were placed on the intake of salt and fat. Patients who smoked and drank were encouraged to quit. Smoking and alcohol were emphasized as increasing the risk of heart disease and causing damage to blood vessels. (5) Exercise intervention: Physical activity was encouraged after three meals, and the amount of exercise was appropriately increased to enhance sugar consumption. For example, household chores within one's ability were recommended as a form of physical exercise, as well as taking walks in open areas or parks, or using exercise equipment. (6) Medication guidance: Patients with diabetes require long-term medication. Some patients were given a single-drug treatment and others require multiple drugs. Therefore, the patients were given instructions on their medications. Besides, the patients were also not allowed to change the dosage of their medicine. Patients who require insulin injection were fully trained on how to inject insulin, and it should be performed under sterile conditions to avoid infection. A hot towel was applied to the injection site at the needle tip of the abdomen to prevent the formation of a hard knot. (7) Out-of-hospital guidance: patients were instructed to measure their blood sugar levels seven times a day (before and after three meals, and before bedtime). Patients were instructed to promptly seek medical examination if blood sugar levels were excessively high.

2.3. Observation indicators

- (1) The pre-meal blood glucose, blood glucose 2 hours after eating, and glycosylated hemoglobin were compared between the patients of both groups.
- (2) The patients' treatment compliance was assessed based on their adherence to medical recommendations, including dietary adherence, medication compliance, regular check-ups, and exercise adherence, rated on a scale from 0 to 10.
- (3) The degree of satisfaction of the patients towards the nursing care was measure through a self-made scale that included categories of very satisfied, satisfied, and dissatisfied.

2.4. Statistical analysis

The data was processed and analyzed using SPSS 21.0. Count data were presented as the number of cases (n) and percentages (%), and analyzed using the χ^2 test. Measurement data were expressed as mean \pm standard deviation and analyzed using the t -test. $P < 0.05$ was considered statistically significant.

3. Results

3.1. Blood glucose levels

Prior to the intervention, there were no significant differences ($P > 0.05$) in pre-meal blood glucose, blood glucose 2 hours after meals, or glycosylated hemoglobin between the two groups. Following the intervention, the experimental group demonstrated significantly improved outcomes in these parameters compared to the reference group ($P < 0.05$) (Table 1).

Table 1. Comparison of blood glucose levels between groups ($\bar{x} \pm 1$)

Group	Number of cases	Pre-meal blood glucose		Blood glucose 2 hours after eating		Glycated hemoglobin	
		Before intervention	After intervention	Before intervention	After intervention	Before intervention	After intervention
Experimental group	50	8.57 \pm 2.14	5.22 \pm 1.67	13.57 \pm 2.14	7.54 \pm 1.38	9.75 \pm 0.57	6.21 \pm 0.58
Reference group	50	8.64 \pm 2.35	7.54 \pm 1.96	13.68 \pm 2.43	10.27 \pm 1.68	9.66 \pm 0.52	7.34 \pm 0.64
t	-	0.1557	6.3708	0.2402	8.8789	0.8248	9.2511
P	-	0.8766	0.0000	0.8107	0.0000	0.4115	0.0000

3.2. Treatment compliance

Before the intervention, there was no statistically significant difference ($P > 0.05$) in compliance with food, medicine, examination, and exercise among the groups; after the intervention, the compliance of food, medicine, examination, and exercise in the humanities group was significantly higher than that of the reference group, ($P < 0.05$) the difference was statistically significant. See Table 2 for details.

Table 2. Comparison of compliance between groups ($\bar{x} \pm 1$)

Group	Number of cases	Diet		Medication		Examination		Exercise	
		Before intervention	After intervention	Before intervention	After intervention	Before intervention	After intervention	Before intervention	After intervention
Experimental group	50	4.27 \pm 1.55	9.21 \pm 0.57	6.22 \pm 1.55	9.24 \pm 0.61	5.27 \pm 1.54	9.24 \pm 0.31	5.27 \pm 1.32	9.55 \pm 0.34
Reference group	50	4.36 \pm 1.57	7.32 \pm 0.54	6.32 \pm 1.57	7.21 \pm 0.48	5.31 \pm 1.28	7.22 \pm 0.52	5.36 \pm 1.52	7.25 \pm 0.64
t	-	0.2884	17.0208	0.3205	18.4927	0.1412	23.5938	0.3161	22.4414
P	-	0.7736	0.0000	0.7493	0.0000	0.8880	0.0000	0.7526	0.0000

3.3. Rate of satisfaction towards the nursing care received

The experimental group had a significantly higher rate of satisfaction towards the nursing care received ($P < 0.05$). See **Table 3** for further details.

Table 3. The comparison of nursing satisfaction between groups [(n)%]

Group	Number of cases	Very satisfied	Satisfied	Dissatisfied	Rate of satisfaction
Experimental group	50	35 (70.00)	14 (28.00)	1 (2.00)	49 (98.00)
Reference group	50	23 (46.00)	20 (40.00)	7 (14.00)	43 (86.00)
χ^2	-	-	-	-	4.8913
P	-	-	-	-	0.0269

4. Conclusion

Diabetes is an incurable disease that requires lifelong treatment with hypoglycemic drugs [5,6]. Type 2 diabetes, the most common form, primarily affects elderly patients, whose physical indicators are generally in a state of decline, making the treatment of this condition particularly challenging [7,8]. Since this is a lifelong disease, the patients tend to not completely comply to their treatment plan, which may lead to complications [9]. Routine nursing can provide targeted nursing measures for the treatment and medication of elderly patients with type 2 diabetes, but there is not much emphasis on the patient's psychological state and overall wellbeing. Therefore, the humanistic nursing care model was established [10,11]. Humanistic nursing care can not only provide basic clinical nursing intervention for patients, but also ensure a healthy mental state and overall wellbeing [12,13]. Humanistic nursing care involves the formation of a dedicated nursing team that acquires nursing knowledge and skills to provide comprehensive care covering emotional support, dietary management, medication administration, and exercise guidance. This approach has proven highly effective in maintaining stable control of diabetes through the results of this study.

There were significantly better improvements in the blood glucose before meal, blood glucose 2 hours after meal, and glycosylated hemoglobin in the patients who received humanistic nursing care compared to routine nursing care. The patients who received humanistic nursing care also showed better treatment compliance than the control group. Lastly, the patients in the experimental group were notably more satisfied with the treatment received compared to the control group. This proves that humanistic nursing care can well meet the needs of patients [14,15].

In summary, the application of humanistic care in elderly patients with type 2 diabetes has certain clinical value, and the patient's condition has been improved, which has certain promotion and application value.

Disclosure statement

The author declares no conflict of interest.

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