Nursing Care for Type 2 Diabetes Mellitus

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Abstract: Type 2 diabetes mellitus (T2DM) is a chronic metabolic disease characterized by insulin resistance and relative insulin deficiency, with a global prevalence that continues to rise. It not only leads to abnormal blood glucose metabolism but also increases the risk of macrovascular and microvascular complications, seriously endangering patients' physical health and quality of life. Nursing care, as an indispensable part of T2DM comprehensive management, plays a key role in controlling blood glucose, preventing complications, and improving patients' self-management abilities. This paper explores the theoretical basis and core principles of T2DM nursing, analyzes the core nursing dimensions (including diet, exercise, medication, blood glucose monitoring, and complication prevention), summarizes innovative nursing models and application effects, discusses practical challenges such as poor patient compliance and uneven nursing resources, and proposes targeted optimization strategies. The research aims to provide theoretical reference and clinical guidance for standardizing T2DM nursing practices, enhancing nursing quality, and promoting the long-term health of patients.

Keywords: Type 2 diabetes mellitus;Nursing care;Self-management; Complication prevention;Holistic nursing

1. Theoretical Basis and Core Principles of T2DM Nursing

T2DM nursing is not a simple combination of symptomatic care measures but a systematic practice based on medical theories, nursing models, and patient-centered concepts. Clarifying its theoretical basis and core principles is the premise of standardized and effective nursing implementation.

T2DM nursing is supported by multiple theories, including the Chronic Disease Self-Management Theory, Orem's Self-Care Deficit Nursing Theory, and the Biopsychosocial Medical Model.

The Chronic Disease Self-Management Theory emphasizes that patients are the core of disease management. Nurses should guide patients to master self-management skills such as blood glucose monitoring, diet control, and exercise regulation, and stimulate their subjective initiative to achieve long-term control of blood glucose. This theory provides a framework for cultivating patients' self-management abilities, which is crucial for the long-term management of T2DM as a chronic disease.

Orem's Self-Care Deficit Nursing Theory holds that when patients' self-care abilities are insufficient to meet their health needs, nurses should provide corresponding nursing support. For T2DM patients, nurses need to assess their self-care deficits (such as lack of disease knowledge, inability to correctly use insulin) and provide targeted care, guidance, and assistance to help patients gradually improve their self-care abilities.

The Biopsychosocial Medical Model points out that disease occurrence and development are affected by biological, psychological, and social factors. T2DM nursing should not only focus on physiological indicators such as blood glucose control but also pay attention to patients' psychological status (such as anxiety and depression caused by long-term illness) and social environment (such as family support and living habits), and implement holistic care to promote patients' physical and mental health[1].

2. Core Dimensions of T2DM Nursing

T2DM nursing involves multiple interconnected core dimensions. Each dimension is closely related to blood glucose control and complication prevention, and together constitutes a systematic nursing framework.

2.1 Diet Nursing

Diet nursing is the foundation of T2DM management, aiming to control total caloric intake, balance nutrient intake, and maintain stable blood glucose.Nurses need to assess patients' daily caloric needs based on their age, weight, activity level, and disease status, and formulate a diet plan with reasonable proportions of carbohydrates, proteins, and fats. Carbohydrates should be mainly low-glycemic index foods such as whole grains and vegetables to avoid rapid blood glucose elevation; proteins should be high-quality proteins such as fish, poultry, and soy products to meet the body's metabolic needs; fats should be dominated by unsaturated fats such as olive oil and nuts, and the intake of saturated fats and trans fats should be limited[2].

2.2 Exercise Nursing

Exercise can improve insulin sensitivity, promote glucose utilization, and help control blood glucose and weight, which is an important part of T2DM nursing.Nurses should formulate personalized exercise plans for patients based on their physical condition and

exercise habits. The choice of exercise should prioritize aerobic exercise, such as brisk walking, cycling, and swimming, with a frequency of 3-5 times a week and a duration of 30-60 minutes each time. The exercise intensity should be moderate, and patients can judge by their own feelings (such as slightly sweating, being able to talk but not sing).Before exercise, nurses should assess patients' health status (such as blood glucose, blood pressure, and cardiac function) to exclude exercise contraindications. During exercise, patients should be guided to carry sugar-containing foods to prevent hypoglycemia. After exercise, blood glucose should be monitored in a timely manner, and the exercise plan should be adjusted according to the response. For patients with limited mobility or complications (such as diabetic foot), low-intensity activities such as bed exercises or chair exercises should be recommended to ensure safety while achieving exercise effects[3].

2.3 Medication Nursing

Medication is an important means to control T2DM blood glucose. Medication nursing focuses on guiding patients to use drugs correctly, ensuring medication safety and effectiveness.For patients taking oral hypoglycemic drugs, nurses should explain the type, dosage, administration time, and mechanism of action of the drugs, as well as common adverse reactions and coping methods. For example, sulfonylureas should be taken before meals to avoid hypoglycemia; metformin may cause gastrointestinal reactions, and it is recommended to take it with meals. Nurses should remind patients to take drugs regularly and quantitatively, not to adjust the dosage or stop taking drugs arbitrarily.For patients using insulin therapy, nurses should instruct them on insulin storage (such as unopened insulin should be stored in a refrigerator, and opened insulin can be stored at room temperature for a short time), injection techniques (such as choosing the abdomen, thigh, or upper arm as injection sites, and rotating sites to avoid local reactions), and blood glucose monitoring after injection. It is particularly important to guide patients to recognize the symptoms of hypoglycemia (such as palpitations, sweating, and hunger) and master emergency coping measures (such as timely supplement of sugar).

2.4 Blood Glucose Monitoring and Self-Management Nursing

Blood glucose monitoring is the basis for evaluating blood glucose control effects and adjusting treatment plans. Self-management nursing aims to improve patients' ability to independently complete disease management.Nurses should guide patients to master the correct use of blood glucose meters, including finger disinfection, blood collection methods, and result reading. They should also clarify the monitoring frequency and time points, such as fasting blood glucose, postprandial 2-hour blood glucose, and bedtime blood glucose, according to patients' 病情 . For patients with unstable blood glucose, the monitoring frequency should be increased to timely grasp blood glucose fluctuations[4].

2.5 Complication Prevention Nursing

T2DM complications (including macrovascular complications such as cardiovascular and cerebrovascular diseases, and microvascular complications such as diabetic nephropathy, retinopathy, and neuropathy) are the main causes of disability and death in patients. Complication prevention nursing is crucial for improving patients' prognosis.Nurses should conduct regular assessments of patients' complication risks, such as monitoring blood pressure, blood lipids, renal function, and fundus examinations. For high-risk patients, targeted preventive measures should be taken, such as guiding patients to control blood pressure and blood lipids, and quitting smoking and drinking to reduce the risk of macrovascular complications.

3.Conclusion

T2DM nursing is a systematic and continuous work that runs through the entire course of the disease. It plays an irreplaceable role in controlling blood glucose, preventing complications, improving patients' self-management abilities, and promoting physical and mental health. Based on multiple theories such as the Chronic Disease Self-Management Theory, T2DM nursing adheres to the core principles of individualization, comprehensiveness, continuity, and patient-centeredness, covering core dimensions such as diet, exercise, medication, blood glucose monitoring, and complication prevention.To further improve the quality of T2DM nursing, it is necessary to strengthen health education to improve patient compliance, balance the distribution of nursing resources, enhance the professional competence of nursing personnel, and pay attention to psychological care. In the future, with the continuous development of medical technology and nursing concepts, T2DM nursing will tend to be more personalized, precise, and intelligent, providing stronger support for the long-term health of patients and making greater contributions to the prevention and control of T2DM.

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