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*Screening, Diagnosis, and Prevention in Clinical Practice:
Evidence from Argentine and Latin American Medicine
(English Version)*

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Nursing Care Process for people with Type II Diabetes Mellitus in Hospitalization Service

Proceso de Atención de Enfermería a personas con Diabetes Mellitus tipo II en servicio de Hospitalización

Mayra Sherlyn Zúñiga Martínez¹  , Monzerrath Cruz Morales¹  , Estrella Adamary Mendoza Paredes¹  , Michel Oria Saavedra¹  , Anibal Espinosa Aguilar¹  , María del Pilar Vargas Escamilla¹  

¹Instituto Universitario de las Naciones Hispana (IUNHi), Pachuca de Soto, Hidalgo, México.

Corresponding author: Mayra Sherlyn Zúñiga Martínez 

ABSTRACT

Introduction: type II Diabetes Mellitus is a public health problem with high prevalence and risk of chronic complications. In the hospital setting, the Nursing Care Process allows for systematic, personalized care aimed at maintaining metabolic control and preventing complications.

Objective: to apply the Nursing Care Process to hospitalized patients diagnosed with Type II Diabetes Mellitus, in order to promote self-care, control blood glucose levels, and improve quality of life.

Method: a descriptive study was carried out using the Nursing Care Process structured in five stages: assessment, diagnosis, planning, implementation, and evaluation. Data were obtained through clinical observation, nursing records, and patient interviews.

Results: nursing diagnoses included nutritional imbalance, impaired skin integrity, deficient knowledge, and risk of unstable blood glucose levels. Interventions focused on health education, glucose control, and wound care led to improved treatment adherence, reduced glucose levels, and wound healing.

Conclusions: the Nursing Care Process enhances the comprehensive management of patients with Type II Diabetes Mellitus, reinforcing autonomy, therapeutic adherence, and physical well-being. Continuous education and professional support are essential to achieve effective management and prevent complications.

Keywords: Type II Diabetes Mellitus; Nursing Care Process; Nursing Care; Health Education; Hospitalization; Self-Care; Glycemic Control.

RESUMEN

Introducción: la Diabetes Mellitus tipo II representa un problema de salud pública con alta prevalencia y riesgo de complicaciones crónicas. En el contexto hospitalario, el Proceso de Atención de Enfermería permite brindar cuidados sistematizados, personalizados y orientados a mantener el control metabólico y prevenir complicaciones.

Objetivo: aplicar el Proceso de Atención de Enfermería a personas hospitalizadas con diagnóstico de Diabetes Mellitus tipo II, con el propósito de promover el autocuidado, controlar los niveles glucémicos y mejorar su calidad de vida.

Método: se desarrolló un estudio descriptivo mediante la aplicación del Proceso de Atención de Enfermería, estructurado en cinco etapas: valoración, diagnóstico, planificación, ejecución y evaluación. La información se obtuvo a partir de la observación clínica, registros de Enfermería y entrevistas al paciente.

Resultados: se identificaron diagnósticos de Enfermería como desequilibrio nutricional, deterioro de la integridad cutánea, conocimiento deficiente y riesgo de glucemia inestable. Las intervenciones enfocadas en educación sanitaria, control glucémico y cuidado de heridas mostraron mejora en la adherencia al tratamiento, reducción de niveles glucémicos y cicatrización de lesiones.

Conclusiones: el Proceso de Atención de Enfermería favorece el control integral del paciente con Diabetes Mellitus tipo II, fortaleciendo su autonomía, adherencia terapéutica y bienestar físico. La educación continua y el acompañamiento profesional son pilares para lograr un manejo efectivo y prevenir complicaciones.

Palabras clave: Diabetes Mellitus Tipo II; Proceso de Atención de Enfermería; Cuidado de Enfermería; Educación en Salud; Hospitalización; Autocuidado; Control Glucémico.

INTRODUCTION

Type 2 Diabetes Mellitus (DM2) is one of the main public health problems of the 21st century, characterized by alterations in the metabolism of carbohydrates, proteins, and fats, resulting from a relative deficiency of insulin or insulin resistance. According to the World Health Organization, in 2023, more than 422 million people worldwide will be living with diabetes, and 90 % of cases will be type 2. Its growing prevalence is closely related to population aging, obesity, and sedentary lifestyles (World Health Organization, 2023) .

In the hospital setting, patients with type 2 diabetes mellitus are at high risk for metabolic and vascular complications, such as infections, retinopathy, nephropathy, and diabetic foot. However, beyond glycemic control, nursing faces the challenge of providing comprehensive, humanized care that addresses the patient's physical, psychological, social, and educational dimensions. In this sense, the Nursing Care Process (NCP) is an essential methodological tool that enables the planning, execution, and evaluation of personalized care grounded in scientific evidence, aimed at maintaining metabolic stability, preventing complications, and strengthening self-care (Pérez & Martínez, 2012; Hosseinzadeh et al., 2023) .

The Nursing Care Process (NCP), as a scientific method specific to the profession, structures nursing staff's critical thinking and strengthens their autonomous role in decision-making. Its application in hospitalized patients with diabetes is particularly relevant, as it enables the identification of unmet needs, the prioritization of problems, and the design of educational strategies tailored to each individual. In addition, the use of standardized taxonomies—NANDA International for diagnoses, NOC for expected outcomes, and NIC for interventions—promotes professional communication and the quality of clinical records (Elsevier España, 2022; University of Iowa College of Nursing, 2024) .

Nursing care for people with type 2 diabetes mellitus goes beyond administering medication or monitoring vital signs; it involves supporting patients in developing self-care skills. According to Watson (2020) , human care is based on empathy, commitment, and the therapeutic relationship, which are essential components for changing habits and achieving therapeutic adherence. In this sense, health education is a pillar of the Nursing Care Process (NCP), as it

promotes patient empowerment, their understanding of treatment, and their ability to make informed decisions.

A study conducted in Latin America by Álvarez et al. (2022) showed that nursing-led educational interventions improved glycemic control and reduced hospital readmission rates in patients with diabetes. This reinforces the need to structure care using a systematic, evidence-based model, in which nursing professionals act as educators, facilitators, and agents of change.

Similarly, Virginia Henderson argues that the primary function of nursing is to help individuals achieve independence in satisfying their fourteen fundamental needs when illness or weakness prevents them from doing so themselves (Henderson, 1997) . Within this theoretical framework, caring for people with type 2 diabetes mellitus requires assessing not only their physical condition, but also the emotional, social, and spiritual aspects that influence their treatment adherence.

In this sense, from a nursing science perspective, caring for hospitalized people with type 2 diabetes mellitus is a highly relevant field, as it combines clinical management with the development of educational, communicative, and ethical skills. The case adds scientific value by contributing to the systematization of nursing care, demonstrating how the use of the Nursing Care Process (NCP) improves patients' quality of life and independence.

Several authors agree that the Nursing Care Process (NCP) is the most effective tool for documenting nursing practice and demonstrating its impact on health outcomes (González et al., 2020; Romero & Torres, 2021) . In addition, its application facilitates the evaluation of care through outcome indicators (NOC) and the use of evidence-based interventions (NIC), strengthening the visibility of the professional role within the multidisciplinary team.

In the hospital setting, applying the Nursing Care Process (NCP) reduces adverse events and hospital readmissions by ensuring continuous, personalized patient follow-up (López et al., 2022) . In particular, in type 2 diabetes mellitus, nursing plays a key role in the prevention of diabetic foot, blood glucose monitoring, the promotion of physical activity, and education on diet and medication.

Scientific rationale

Despite advances in medical treatment, many hospitalized patients with type 2 diabetes mellitus have poor glycemic control and low therapeutic adherence, factors that lead to prolonged stays and preventable complications. This phenomenon raises a question from the nursing discipline:

How can a comprehensive nursing care process be structured and implemented to promote self-care, improve therapeutic adherence, and reduce complications in hospitalized patients with type 2 diabetes mellitus?

The literature reports that one of the main challenges in caring for these patients lies in the lack of continuity between hospital and outpatient care, as well as insufficient health education (Ramos-Sánchez et al., 2020) . Therefore, this paper proposes a nursing intervention focused on comprehensive care, where education and empathy become therapeutic tools as much as pharmacology.

What is novel about this case is not the medical diagnosis but the proposed structured care model: a care plan based on the NANDA, NOC, and NIC taxonomies, within the framework of Virginia Henderson's assessment. This model allows for the identification of specific nursing diagnoses, such as nutritional imbalance, risk of unstable blood glucose, and deficient knowledge, articulating educational and therapeutic interventions with measurable outcomes, such as reduced blood glucose and improved patient self-efficacy (NANDA International, 2024; Moorhead et al., 2024) .

In addition, the case emphasizes the ethical and humanistic dimensions of care by recognizing the patient's autonomy and the need to accompany them emotionally during their adaptation. Nursing, as a science of care, finds in this context an opportunity for innovation by applying a systematic process that transforms the patient-professional relationship into a therapeutic alliance oriented toward well-being.

The objective of this study is to apply and evaluate the Nursing Care Process, based on the NANDA, NOC, and NIC taxonomies, for a person hospitalized with type 2 diabetes mellitus, to promote self-care, strengthen therapeutic adherence, and prevent complications during their hospital stay.

METHOD

Type of study

Applied descriptive study of a qualitative-quantitative nature, with a clinical case study design.

Location and period

This study was conducted in the inpatient ward of the ISSSTE Columba Rivera Osorio Hospital, Pachuca de Soto, Hidalgo, from June 30 to August 8, 2025.

Methodology

The Nursing Care Process (NCP) was implemented in five phases: *assessment, diagnosis, planning, implementation, and evaluation*. The assessment framework used was Virginia Henderson's, which identifies the basic needs of the individual and guides nursing assessment (Henderson, 1966/1997). During the diagnosis phase, the criteria of the NANDA International taxonomy were used to identify nursing diagnoses; in planning, the expected outcomes were expressed according to the NOC classification, and interventions were coded according to the NIC classification.

Recording system

The hospital's nursing care recording system was used, with specific fields for diagnosis, objective, intervention, outcome, and date. Coding was ensured with linked NANDA-NIC-NOC, as described in the literature as "standardized nursing language."

Information processing and analysis

During each phase of the Nursing Care Process (NCP), data relating to the patient (history, capillary blood glucose, weight, skin lesions, etc.), nursing interventions performed, and results achieved were recorded. For the qualitative analysis, nursing records and brief interviews with the patient were used to assess their knowledge, attitude, and adherence to the care plan. For the quantitative analysis, measurements were taken before and after the intervention (blood glucose levels, dietary compliance, wound healing) and compared using descriptive statistics

(means and percentages) to evaluate trends in improvement.

CASE REPORT

A 58-year-old male patient was hospitalized for metabolic decompensation secondary to sustained hyperglycemia—medical diagnosis: Type 2 diabetes mellitus with diabetic foot in the initial stage. Upon admission, he was observed to be overweight (BMI 31 kg/m²), with a capillary blood glucose level of 245 mg/dL and a superficial wound on the sole of his right foot. He reported fatigue, polydipsia, and difficulty following his diet. He stated that he was not adhering to his pharmacological treatment.

The assessment framework used was Virginia Henderson’s, focusing on the 14 fundamental needs. The assessment focused on the following areas of impairment: *nutrition, elimination, mobility, hygiene, communication, safety, and learning.*

Nursing Assessment

Subjective data:

- “I find it hard to follow the diet because it makes me anxious.”
- “Sometimes I don’t take my insulin because I’m afraid of pricking myself.”
- “I want to get better quickly so I can go back to work.”

Objective data:

- Capillary blood glucose: 245 mg/dL.
- BMI: 31 kg/m².
- Dry skin and cracked heels.
- Superficial wound measuring 1.5 cm on the right foot, with no signs of infection.
- Poor knowledge of self-care and treatment.

Altered needs (according to Henderson):

1. Adequate nutrition and hydration.
2. Moving and maintaining proper posture.
3. Maintaining personal hygiene and skin integrity.
4. Avoiding environmental hazards (hyperglycemia/hypoglycemia).
5. Learning and satisfying curiosity related to health.

Table 1. Phase 1: Nursing Diagnosis (NANDA-I 2024-2026)	
NANDA-I code and diagnosis	Related factors/manifestations
00001 Nutritional imbalance: exceeding bodily requirements	Related to excessive caloric intake and lack of knowledge about therapeutic diet, manifested by BMI 31 kg/m ² and high blood glucose.
00179 Risk of unstable blood glucose	Related to irregular drug treatment, inadequate knowledge, and inconsistent diet.
00046 Impaired skin integrity	Related to impaired peripheral circulation and self-care deficit, manifested by superficial lesion on right foot.
00126 Deficient knowledge	Related to lack of information and fear of treatment, manifested by verbalization of lack of knowledge about insulin and diet.

Table 2. Phase 2: Expected outcomes (NOC, 7th ed., 2024)				
Code and NOC outcome		Indicators (scale 1-5)	Goal	
1004	Nutritional status.	Weight control; dietary adherence; blood glucose level	Level ≥ 4 (improved)	4
1619	Diabetes self-management behavior.	Glucose monitoring; medication administration; diet management	Level ≥ 4	
1101	Tissue integrity: skin and mucous membranes.	Skin integrity; wound healing; hydration	Level ≥ 5	
1813	Knowledge: diabetes management.	Recognizes risk factors; identifies warning signs; applies preventive measures	Level ≥ 4	

Table 3. Phase 3: Nursing interventions (NIC, 7th ed., 2024)				
NIC code and intervention		Nursing Activities		
5246	Education: disease process.	Explain the pathophysiology of diabetes; teach blood glucose self-monitoring; provide guidance on diet; assess understanding.		
5602	Teaching: prescribed diet.	Develop a meal plan with support from the nutrition service; reinforce portion sizes and mealtimes; encourage water intake.		
3660	Foot care.	Inspect feet daily; perform dressings using sterile technique; instruct on hygiene and appropriate footwear.		
2314	Medication administration: subcutaneous.	Teach correct insulin application technique; supervise self-injection; reinforce adherence.		
2380	Blood glucose management.	Measure blood glucose before meals; record results; adjust care according to medical prescription.		
5510	Emotional support.	Actively listen to fears; provide positive reinforcement; promote confidence in their ability to self-care.		

Phase 4: implementation

During the five days of hospitalization, educational and care interventions were carried out as planned. Visual materials on diabetes management were provided, and the supervised self-injection technique was practiced. The patient actively participated in blood glucose control, recording daily values that decreased progressively (245 - 155 mg/dL).

Dietary habits were reinforced by incorporating low-glycemic-index foods. Daily dressings were performed with favorable results; at discharge, the wound was 90 % healed. The patient expressed greater confidence and knowledge of the disease process, rating his learning as “very useful.”

Phase 5: Evaluation

At the end of the intervention, the NOC indicators showed significant improvement:

- *Nutritional status (NOC 1004):* Level 4.
- *Self-management behavior (NOC 1619):* Level 4.
- *Tissue integrity (NOC 1101):* Level 5.
- *Knowledge about diabetes management (NOC 1813):* Level 5.

The patient achieved partial independence in insulin administration and demonstrated understanding of the dietary regimen and warning signs. Outpatient follow-up with community nursing was scheduled.

DISCUSSION

The results obtained confirm the effectiveness of the Nursing Care Process as a scientific method that structures comprehensive care for people with type 2 diabetes mellitus. The findings coincide with those reported by researchers such as Álvarez et al. (2022), who demonstrated that nursing educational interventions improve glycemic control and therapeutic adherence.

Likewise, the decrease in blood glucose levels observed in this case underscores the importance of continuous support, a finding also reported by González et al. (2020), who found that the systematic application of the Nursing Care Process (NCP) reduces complications and hospital readmissions.

The strengthening of self-care coincides with Watson's (2020) philosophy of transpersonal care, in which empathetic interaction between nurse and patient becomes a determining therapeutic factor.

However, unlike other studies conducted by Romero & Torres (2021) and López et al. (2022), the present case explicitly integrated the NANDA-NOC-NIC taxonomies, which enabled a more objective and measurable record of care outcomes. This systematization constitutes an innovative contribution by highlighting the quantifiable impact of nursing interventions on metabolic control.

CONCLUSION

The Nursing Care Process applied to a person hospitalized with type 2 diabetes mellitus demonstrated that structured and systematic nursing care contributes significantly to better glycemic control, wound healing, and improved self-care.

The use of the NANDA-I, NOC, and NIC taxonomies (2024-2026) facilitated the objective evaluation of the results, demonstrating the scientific value of standardized nursing language. Health education, empathy, and effective communication were essential elements in strengthening therapeutic adherence and patient autonomy.

It is concluded that the Nursing Care Process is an indispensable tool for professional practice, as it allows for comprehensive, humanized, and evidence-based care aimed at promoting quality of life and preventing complications in hospitalized patients with type 2 diabetes mellitus.

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