

Case Study

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**Nursing Problems Occurring in a Diabetic Foot Patient - A Case Study Based on Icnp®**

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**Admission**

Modern management of computerization of health services provided by nursing care in developed countries is based on an extensive system of the International Classification of Nursing Practices. The international classification of nursing diagnoses has been classified in the World Health Organization classification by the International Council of Nurses (ICN-International Council of Nurses), which encourages European Union countries to introduce the system created to standardize nursing diagnoses used in nursing [1, 2].

In 1989, the idea arose to organize written terms used by nurses for mutual communication between ethnically and culturally different groups. At the same time, this system makes it easier to record individual nursing activities in the medical records for a patient under nursing care [1, 3].

In Poland, the ICNP® Research and Development Center at the Medical University of Lodz is responsible for introducing ICNP®

(International Classification of Nursing Diagnos) terminology. Currently, nursing is developing information technology in the patient care process, which is a specialized and orderly resource for collecting data used in the process of performing nursing activities for patients around the world [4-6].

**Aim of the work**

The purpose of the work is to present the health situation and indicate appropriate actions taken by the nurse during nursing a patient in the course of diabetic foot syndrome (ZSC) by proposing the use of terms taken from ICNP® (International Classification of Nursing Diagnos) in proper patient care.

**Case study**

A 70-year-old patient admitted to the surgical ward due to diabetic foot syndrome (ZSC), type II diabetes, allodynia occurs. Limited physical activity due to overweight (BMI 33.4).

**Comparative analysis of the use of NANDA (North American Nursing Diagnosis Association) and ICNP® (International Classification of Nursing Diagnos) systems in patients with diabetic foot syndrome (ZSC).**

Nursing diagnosis using the NANDA system in a patient in the course of diabetic foot syndrome (ZSC).				
Problem care	The purpose of the planned activities nursing	Planned interventions nursing	Justification of the planned intervention nursing	Rating implemented activities nursing
Risk of wound infection due to full skin thickness	Development of dead tissue - Preventing wound infection by controlling infection - Keeping the wound environment moist - Awakening of the epidermis around the edges of the wound	Care after surgical cleansing of the wound bed - Stimulation of wound healing - Leading to granulation	The nurse prepares the patient to change the dressing, providing him with mental and physical comfort - The nurse follows the standards of aseptic and antiseptic behavior [7].	Wound infection did not occur.

Nursing diagnosis using the ICNP system in a patient in the course of diabetic foot syndrome (ZSC).		
Negative diagnosis (+ ICNP code)	Interventions	Positive diagnosis ICNP
Risk of infection [10015133]	Care planning [10035915] Wound care [10033347] Teaching about wound healing [10034974] Evaluation of wound healing [10007218] Tissue Perfusion Monitoring [10035335] Assessing tissue perfusion [10030775] Documenting [10006173]	No infection [10028950]

Nursing diagnosis using the NANDA system in a patient in the course of diabetic foot syndrome (ZSC).				
Problem care	The purpose of the planned activities nursing	Planned interventions nursing	Justification of the planned intervention nursing	Rating implemented activities nursing
1 <sup>st</sup> degree of diabetic foot ulceration with Wagner's classification, affecting the quality of life of the patient.	Leading to granulation process	Nursing activities aimed at reducing ulceration from the first degree to 0 degree. - calluses removal at the forefoot - diabetic foot care - patient education - stimulating the healing process - glycemic control	Reducing the risk of ulcer aggravation consists in: metabolic control of diabetes, introduction of a diabetic diet - Removal of calluses to reduce local pressure on the foot. - As a result of the disappearance of pain, external injuries often occur. As a result of injury, the patient does not feel pain. Incompetent cutting of nails by a patient is the cause of ulceration. - Patient with stage 1 ulcerations should go to the doctor for follow-up visits every 6 months [4].	The wound surface has decreased. 70% of the wound bed was granulation tissue.

Nursing diagnosis using the ICNP system in a patient in the course of diabetic foot syndrome (ZSC).		
Negative diagnosis (+ ICNP code)	Interventions	Positive diagnosis ICNP
hypoglycemia [10027566] diabetic ulcer [10042181]	management of hypoglycemia [10035272] assessing susceptibility to infection [10002821] skin care [10032757] assessing diabetic foot ulceration [10042802] care of diabetic ulcers [10031117] teaching on the care of diabetic ulcers [10042887]	management of hypoglycemia [10035272] assessing susceptibility to infection [10002821] skin care [10032757] assessing diabetic foot ulceration [10042802] care of diabetic ulcers [10031117] teaching on the care of diabetic ulcers [10042887]

Nursing diagnosis using the NANDA system in a patient in the course of diabetic foot syndrome (ZSC).				
Problem care	The purpose of the planned activities nursing	Planned interventions nursing	Justification of the planned intervention nursing	Rating implemented activities nursing
Edema of the patient's limbs as a result of venous insufficiency due to chronic heart failure	Limiting pain by creating gradual pressure	Maintaining constant tension by applying bandages	The wound on the lower leg was fitted with an elastic bandage to apply pressure to the deep veins, directing blood flow towards the heart [8].	The patient's lower edema is reduced by directing fluids into the lymphatic and blood vessels.

Nursing diagnosis using the ICNP system in a patient in the course of diabetic foot syndrome (ZSC).		
Negative diagnosis (+ ICNP code)	Interventions	Positive diagnosis ICNP
venous ulcer [10030100] edema [10041951]	care planning [10035915] assessing edema [10045177] edema management [10036793] managing the compression therapy device [10036605] using aseptic technique [10041784] wound care [10033347] application of an elastic bandage [10030472] monitoring wound healing [10042936] compression [10035147] documenting [10006173]	effective response to treatment [100028670] effective wound healing [10035096] small [10018315] + edema [10041951]

Nursing diagnosis using the NANDA system in a patient in the course of diabetic foot syndrome (ZSC).				
Problem care	The purpose of the planned activities nursing	Planned interventions nursing	Justification of the planned intervention nursing	Rating implemented activities nursing
Patient's pain 6 points on the VAS scale	Reduction of patient's pain from severe to optimal	Elimination of pain - To recognize a patient with a disease entity - administration of painkillers at the request of a doctor	By observing the patient, you can determine whether the pain intensifies or disappears - By providing directions for taking painkillers at specific doses and at certain times will ensure patient safety against overdose of painkillers [9].	The patient's pain decreased from 6 points to 3 points. Pain has been minimized.

Nursing diagnosis using the ICNP system in a patient in the course of diabetic foot syndrome (ZSC).		
Negative diagnosis (+ ICNP code)	Interventions	Positive diagnosis ICNP
Pain [10023130]	Care planning [10035915] Nurse controlled pain management [10039798] Pain monitoring [10038929] Collaboration in the implementation of nurse-controlled pain management [10039812] Documenting [10006173]	Adequate knowledge [10027112] Reduced pain [10027917]

**Nursing diagnosis using the NANDA system in a patient in the course of diabetic foot syndrome (ZSC).**

<b>Problem care</b>	<b>The purpose of the planned activities nursing</b>	<b>Planned interventions nursing</b>	<b>Justification of the planned intervention nursing</b>	<b>Rating implemented activities nursing</b>
Anxiety and anxiety of the patient due to ignorance regarding his state of health	To reduce the patient's anxiety and anxiety	<p>Providing the patient with knowledge about the essence of his disease, its course and diagnostics of pharmacotherapy principles of sources of the disease. (Medical guides)</p> <p>Explanation of purposefulness of undertaken actions</p> <p>Informing the patient about the need to maintain regularity in the field of diagnosis and treatment.</p> <p>Talking to the patient, mental support, ensuring contact with a psychologist.</p>	<p>The care model according to D. Orem was used, educational and supportive.</p> <p>Providing support to the patient, education by a nurse and the possibility of using innovative therapeutic agents supporting the wound healing process.</p> <p>The nursing and care model to compensate for the patient's self-care deficit by helping the nurse perform tasks that the patient is unable to do alone.</p> <p>Supporting and educational elements provide the patient with knowledge about the essence of his illness, its course and diagnosis of the principles of pharmacotherapy of disease sources (medical guides). The nurse also assesses the biological sphere with a view to the patient's movement deficit, educates about the possibilities of using appropriate footwear and support with appropriate devices when moving [6].</p>	The patient's anxiety has diminished. The patient has knowledge about his illness.

**Nursing diagnosis using the ICNP system in a patient in the course of diabetic foot syndrome (ZSC).**

<b>Negative diagnosis (+ ICNP code)</b>	<b>Interventions</b>	<b>Positive diagnosis ICNP</b>
Lack of knowledge [10000837]	<p>informing about hospitalization [10042480]</p> <p>teaching the family about the disease [10021719]</p> <p>providing family guidance for the future [10026375]</p> <p>dealing with drugs [10040708]</p> <p>assessment of mental status [10030734]</p>	<p>willingness to receive knowledge [10042498]</p> <p>knowledge about diagnostic tests [10023764]</p> <p>adequate knowledge [10027112]</p> <p>condition adequate to the needs[10024930]</p>

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## Discussion

Based on such authors as Majda and Kózka, literature appeared with ordered nursing diagnoses based on the NANDA classification, and the ordering of the ICNP classification was created thanks to the activity of the Accredited Research and Development Center (ACB and R) at the Faculty of Medical University in Łódź [5, 6].

In the NANDA classification, hypoglycemia is attributed to blood glucose deficiency, which pays special attention to the patient's condition, because of this there are changes in the patient's behavior of his illogical perception of the place, time and situation in which I am, and then even loss of consciousness associated with disorders hypoglycemia. The ICNP system defines the diagnosis associated with hypoglycemia as cognitive impairment with loss of consciousness [5, 6]

## Conclusions

The introduction of the ICNP® international nursing practice classification system at medical service providers will introduce consistency of medical records stored not only in a given country, but also around the world. In this work, a comparative analysis was performed using the NANDA and ICNP® systems to show the unification of nursing diagnoses, interventions and patient care results in the course of diabetic foot syndrome [3, 10].

The use of ICNP® by nursing staff will shorten the time needed to complete medical records, which will affect the possibility of devoting more time to patient care. Both NANDA and ICNP® systems refer to the real reference of nursing diagnosis adequate to nursing activities towards the patient in the course of diabetic foot syndrome (ZSC) [3, 6, 10].

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