

## Chronic heart failure - nursing diagnoses

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**Abstract.** The authors present the most important nursing diagnoses in patients with chronic heart failure. The main actual diagnoses are the following: decreased cardiac output, excess fluid volume, ineffective tissue perfusion, ineffective breathing pattern, activity intolerance, and noncompliance. The principal risk diagnoses are risk of activity intolerance, fluid volume deficit, infection, medication, and skin integrity impairment.

**Key Words:** nursing diagnosis, chronic heart failure.

**Rezumat.** Autorii prezintă cele mai importante diagnostice de nursing stabilite în cazul pacienţilor cu insuficienţă cardiacă cronică. Principalele diagnostice de afectare actuală sunt următoarele: debitul cardiac redus, încărcarea lichidiană, perfuzia tisulară insuficientă, respiraţia inadecvată, intoleranţa la efort fizic şi lipsa de complianţă. Cele mai importante diagnostice de risc de apariţie a unor condiţii sau efecte negative sunt cele de risc de intoleranţă la efortul fizic, deshidratare, infecţie, efecte adverse ale medicamentelor, alterare a integrităţii cutanate.

**Cuvinte cheie:** diagnostic nursing, insuficienţă cardiacă cronică.

**Introduction.** The individualized and holistic patient care needs a specialized language. Thus, the professional language of nursing has improved in the last thirty years. During the last two decades, some associations, councils, committees and individuals developed guidelines, standardized terminologies, and classifications (Saba 2007; NANDA 2009; ACENDIO 2010; AENTDE 2010; AFEDI 2010):

- The North American Nursing Diagnosis Association (NANDA; in 2002, NANDA became NANDA International, NANDA-I), Diagnosis Development Committee
- The American Heart Association Council on Cardiovascular Nursing
- The Nursing Diagnosis Extension and Classification Guidelines for Development and Evaluation of Diagnoses
- The Council on Cardiovascular Nursing and Allied Professions of the European Society of Cardiology
- The Association for Common European Nursing Diagnoses
- Asociación Española de Nomenclatura, Taxonomía y Diagnóstico de Enfermería
- Association Francophone Européenne des Diagnostics Infirmiers
- The Clinical Care Classification System of Nursing Diagnoses (CCC-Dr. Virginia K. Saba).

Evidence-based nursing is a new concept for almost all Romanian health care providers. It helps nurses to achieve an end (obtaining relevant informations about diagnoses and treatment, and improving all the nursing process).

The nursing process has six stages:

- Assessment
- Diagnosis
- Outcome identification
- Planning

- Implementation
- Evaluation

The term „assessment“ is used for collecting subjective and objective data which are relevant for nursing diagnosis.

In 1990, NANDA elaborated the definition of nursing diagnosis („a clinical judgment about individual, family, or community responses to actual or potential health problems or life processes“). Nursing diagnosis is not redundant with the medical diagnosis, in particular the diagnosis-related group (DRG).

There are five categories of nursing diagnoses (NANDA 2009):

- Actual diagnosis (one or more health problems clinically manifested)
- Risk diagnosis (related to the presence of some risk factors-variables associated with an increased risk of disease)
- Possible diagnosis (poor information that cannot sustain actual diagnosis)
- Syndrome diagnosis (more actual diagnoses)
- Wellness diagnosis (estimated level of energy, vitality, optimism, happiness)

The common points of all actual diagnoses must be in accordance with the list which follows (Wehby et al 1999; Carpenito-Moyet 2007; Saba 2007):

- Definition
- Defining characteristics
- Related factors

The outcome may be improved, stabilized, or deteriorated (Granger et al 2009; NANDA 2009). There is a Nursing Outcomes Classifications (Johnson et al 2005).

The planning means to elaborate care plans with appropriate therapeutic interventions such as organizing daily activities, providing hygiene, monitoring blood pressure, assisting the physician, encouraging self-management (patient’s ability to manage his chronic illness) (Granger et al 2006; Schnell et al 2007; Grime et al 2007). Nursing Interventions Classification standardizes all care plans (Johnson et al 2005).

The implementation represents the difficult process of execution of all care plans. The evaluation means determination of care plans’ efficacy and patient’s satisfaction (Granger et al 2006; Ekman et al 2007; Saba 2007).

Chronic heart failure is a major cause of frequent hospitalizations and death. It is associated with diminished quality of life (Ekman et al 2007; Schnell et al 2007).

The following are the main classes of nursing diagnoses in patients with chronic heart failure:

- Actual diagnoses
- Risk diagnoses

We shall exemplify the following diagnoses:

1. Main actual diagnoses
2. Other possible actual diagnoses in patients with chronic heart failure
3. Main risk diagnoses

### 1. Main actual diagnoses

These are the most important actual diagnoses:

- Decreased cardiac output (Code C05 in the Clinical Care Classification System of Nursing Diagnoses - CCC)
- Fatigue (CCC A01.3)
- Excess fluid volume (CCC F15)
- Ineffective tissue perfusion: peripheral, renal, gastrointestinal, cardiopulmonary, cerebral (CCC S48)
- Ineffective breathing pattern, with shortness of breath, orthopnea (CCC L26.2)
- Impaired gas exchange, in case of cyanosis, a clinical marker of hypoxemia (CCC L26.3)
- Renal alteration, meaning renal failure in patients with dehydration (CCC T50)
- Disturbed sleep pattern, in patients with tachypnea, orthopnea, breathing pattern impairment, loop-acting diuretic medication (CCC A01.6)
- Activity intolerance, in case of fatigue, shortness of breath, ineffective peripheral tissue perfusion (CCC A01.1)

- Activities of daily living alteration, patients depending on total supervision and/or assistance (CCC O38.1)

NANDA definition for decreased cardiac output is the following: „inadequate blood pumped by the heart to meet the metabolic demands of the body“. The main defining characteristics are fatigue, tachypnea, orthopnea, altered blood pressure, abnormal heart sounds, decreased urine output, and edema. Some of the most important related factors are heart rate and rhythm alterations, and impaired contractility (Gulanik et al 2006; NANDA 2009).

Patients describe fatigue as „lacking strength“, „lacking energy“, or „feeling sleepy“. It may lead to demoralization (inability to cope, helplessness, refraining, denying oneself) (Clarke et al 2002; Falk et al 2007).

NANDA definition for excess fluid volume is represented by „increased isotonic fluid retention“. The principal defining characteristics are the following: dyspnea, orthopnea, jugular vein distention, abnormal breath sounds (rales), decreased urine output, weight gain, and edema. The main related factors are decreased cardiac output and excessive sodium intake (Gulanik 2006; NANDA 2009).

## 2. Other possible actual diagnoses in patients with chronic heart failure

Some patients with chronic heart failure may be diagnosed with:

- Knowledge deficit (CCC D 08)
- Noncompliance (CCC G20)
- Deficient fluid volume if diuresis is exaggerated
- Alteration in bowel elimination: diarrhea (as a common side effect of diuretics- „water pills“ (CCC B03.3)
- Alteration in bowel elimination: constipation, in case of prolonged immobilization (CCC B03.2)
- Impaired skin integrity, in immobilized patients (CCC R46)
- Self care deficit: feeding, toileting, bathing, dressing, and grooming if the function of the left ventricle, measured by left ventricular ejection fraction, is very low (CCC O35-39)
- Spiritual distress (inability to participate in religious practices in the presence of fatigue or prolonged periods of bed rest or immobilization)

There are more categories of knowledge deficit (Saba 2007):

- Knowledge deficit of disease process (CCC D 08.3)
- Knowledge deficit of dietary regimen (CCC D08.2)
- Knowledge deficit of medication regimen (CCC D08.5)

The Heart Failure Learning Needs Inventory is an assessment instrument for educating the patients in the field of heart failure. It has 98 items divided into eight subscales (general heart failure information, psychologic adaptation to illness, risk factors, medications, diet, activity, prognosis, signs and symptoms) (Wehby 1999).

Nurses must encourage self-management, providing written information tailored to patients' conditions and spiritual support. Self-care management and self-care maintenance behaviors include taking medications, seeking advice of physician and nurse, and following sodium dietary restrictions (Finch et al 2003; Lavin et al 2004; Johnson et al 2005; Grime et al 2007; Schnell-Hoehn et al 2009).

Family's help is very important. Lee and Craft-Rosenberg (2002) proposed a new nursing diagnosis-ineffective family participation in professional care (Lee et al 2002).

Noncompliance has various aspects (Saba et al 2007):

- Noncompliance of diagnostic test (CCC G20.1)
- Noncompliance of dietary regimen (CCC G20.2)
- Noncompliance of fluid volume (CCC G20.3)
- Noncompliance of medication regimen (CCC G20.4)

Noncompliance is a poor adherence or nonadherence to the care plans. It depends on psychological, behavioral, environmental, and socioeconomic variables (Lavin et al 2004; Schnell-Hoehn et al 2009).

Nonadherence is the major cause of preventable rehospitalizations. A poor Self-care Heart Failure index score correlates with more hospital admissions (Schnell-Hoehn et al 2009; Wu et al 2008).

Granger and colleagues (2009) compared the perception of patients and physicians about adherence to the heart failure treatment. Patients said they had huge difficulties to respect the regimen, and especially the diet. On the other hand, physicians considered that all their indications were clear and simple, but patients did not understand those (Granger et al 2009). Adherence is improved in patients well informed, especially about clinical features and medications.

### 3. Main risk diagnoses

The main risk diagnoses in patients with chronic heart failure are the following (Saba et al 2007):

- Activity intolerance risk, at the onset of fatigue (classified as A01.2 by CCC)
- Fluid volume deficit risk, as side-effect of loop-acting diuretics in elderly people (CCC F15.2)
- Infection risk, if patient has chronic severe lung stasis (CCC K25.5)
- Medication risk, an example is hyperkalemia produced by potassium-sparing diuretics associated with inhibitors of angiotensin-converting enzyme (CCC H21)
- Trauma risk in patients with important shortness of breath, fatigue, medication abuse with hypotension, self-care deficit (CCC N35.5)
- Skin integrity impairment risk in immobilized patients (CCC R46.3)

To conclude, understanding nursing process, and especially nursing diagnoses, will improve the efficacy of nursing care plans and patient satisfaction. It will promote increased life expectancy and improved quality of life for patients with chronic heart failure and their families.

### References

- Carpenito-Moyet L. J., 2007 Nursing Diagnosis. Application to Clinical Practice. 12<sup>th</sup> Ed, Lippincott Williams&Wilkins, Philadelphia.
- Clarke D. M., Kissane D. M., 2002 Demoralization: its phenomenology and importance. Aust N Z J Psychiatry **36**:733-742.
- Ekman I., Schaufelberger M., Kjellgren K. I., Swedberg K., Granger B. B., 2007 Standard medication information is not enough: poor concordance of patient and nurse perceptions. J Adv Nurs **60**:181-186.
- Falk K., Granger B. B., Swedberg K., Ekman I., 2007 Breaking the vicious circle of fatigue in patients with chronic heart failure. Qual Health Res **17**:1020-1027.
- Finch N., Sneed N., 2003 Quality of life when living with heart failure. Crit Care Nurs Clin North Am **15**:511-517.
- Granger B. B., Moser D., Germino B., Harrel J., Ekman I., 2006 Caring for patients with chronic heart failure: the trajectory model. Eur J Cardiovas Nurs **5**:222-227.
- Granger B. B., Sandelowski M., Tahshjain H., Swedberg K., Ekman I., 2009 A qualitative descriptive study of the work of adherence to a chronic heart failure regimen: patient and physician perspectives. J Cardiovasc Nurs [Epub ahead of print].
- Grime J., Blenkinsopp A., Raynor D. K., Pollock K., Knapp P., 2007 The role and value of written information for patients about individual medicines: a systematic review. Health Expect **10**:286-298.
- Gulanik M., Myers J. L., 2006 Nursing Care Plans: Nursing Diagnosis and Intervention. 6<sup>th</sup> Edition, Mosby.
- Johnson M., Bulechek G. M., McCloskey-Dochterman J., et al, 2005 NANDA, NOC, and NIC Linkages: Nursing Diagnoses, Outcomes, and Interventions (NANDA, NOC, and NIC Linkages). 2<sup>nd</sup> Edition, Mosby.
- Lavin M. A., Avant K., Craft-Rosenberg M., 2004 Contexts for the study of the economic influence of nursing diagnoses on patient outcomes. Int J Nurs Terminol Classif **15**:39-47.

- Lee A., Craft-Rosenberg M., 2002 Ineffective family participation in professional care: a concept analysis of a proposed nursing diagnosis. *Nurs Diagn* **13**:5-14.
- NANDA International, 2009 Nursing Diagnoses. Definitions and Classification 2009-2011. Wiley-Blackwell (ed), pp. 57-156, pp. 289-304. Chichester, UK.
- Saba V. K., 2007 Clinical Care Classification (CCC). In *System Manual: A Guide to Nursing Documentation*, pp. 151-182, Springer Publishing Company New York.
- Schnell K. N., Naimark B. J., McClement S. E., 2006 Influential factors for self-care in ambulatory care heart failure patients: a qualitative perspective. *Can J Cardiovasc Nurs* **16**:13-19.
- Schnell-Hoehn K. N., Naimark B. J., Tate R. B., 2009 Determinants of self-care behaviors in community-dwelling patients with heart failure. *J Cardiovasc Nurs* **24**:40-47.
- Wehby D., Brenner P. S., 1999 Perceived learning needs of patients with heart failure. *Heart Lung* **28**:31-40.
- Wu J. R., Moser D. K., Lennie T. A., Burkhart P. V., 2008 Medication Adherence in patients who have heart failure: a review of the literature. *Nurs Clin North Am* **43**:133-153; VII-VIII.
- \*\*\* [www.acendio.net](http://www.acendio.net) The Association for Common European Nursing Diagnoses (ACENDIO).
- \*\*\* [www.aentde.com](http://www.aentde.com) Asociación Española de Nomenclatura, Taxonomía y Diagnóstico de Enfermería (AENTDE).
- \*\*\* [www.afedi.com](http://www.afedi.com) Association Francophone Européenne des Diagnostics Infirmiers (AFEDI).
- \*\*\* [www.escardio.org/communities/councils/CCNAP/](http://www.escardio.org/communities/councils/CCNAP/).
- \*\*\* [www.nanda.org](http://www.nanda.org) NANDA International Taxonomy II.
- \*\*\* [www.rncentral.com/nursing-library/careplans/](http://www.rncentral.com/nursing-library/careplans/).
- \*\*\* [www.sabacare.com](http://www.sabacare.com) Saba VK - The Clinical Care Classification (CCC) System. Nationwide Health Information Technology Standard for Nursing 2004.
- \*\*\* <http://ebn.bmj.com/>.
- \*\*\* [http://en.wikipedia.org/wiki/Nursing\\_diagnosis/](http://en.wikipedia.org/wiki/Nursing_diagnosis/).
- \*\*\* [www.healthline.com/galecontent/nursing-diagnosis/](http://www.healthline.com/galecontent/nursing-diagnosis/).

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