



CARE NEEDS ASSESSMENT TOOLKIT: CASES OF TWO CRITICALLY ILL PATIENTS WITH UROLOGICAL DISEASES

Meglana Balaburova¹, Mariela Kamburova², Eleonora Mineva - Dimitrova², Anelia Simeonova³, Zhenya Andreeva - Simeonova¹, Nezabravka Al – Shargabi⁴
1) Department of Therapeutic Nursing Care, Faculty of Health Care, Medical University - Pleven, Bulgaria.

2) Department of Social Medicine and Health Management, Faculty of Public Health, Medical University - Pleven, Bulgaria.

3) Department of Surgical Nursing Care, Faculty of Health Care, Medical University - Pleven, Bulgaria.

4) Clinic of Urology, UMHAT “Dr Georgi Stranski” - Pleven, Bulgaria.

ABSTRACT:

Introduction: The Care Needs and Dependency Assessment Scales are the result of a number of studies and have been designed for the benefit of patients and healthcare professionals. Nursing interventions or activities are a measurable quantity that determines the effectiveness of care provided to a patient, and quality assessment involves the application of various approaches and tools.

Objective: To analyze the ability of nursing students participating in a circle on Innovative Approaches in Nursing Care, using an assessment toolkit, to identify specific health care needs for patients with severe urological disease conditions.

Material and Methods: To achieve the objective, students described the care of two patients hospitalized for treatment at the Urology Clinic of the University Hospital “Dr. Georgi Stranski” - Pleven. A documentary method was used, including an individual patient assessment form with three scales applied and a fourth scale added to assess degrees of care dependency and a sample individual nursing care plan.

Results: Students accurately assessed the care needs of both patients with urologic disease using the assessment criteria for each scale. Despite the high risk of falls, the very high risk of decubitus, and the need for comprehensive care for functional independence, care was planned and implemented successfully, treatment was implemented with the attending physician, and the patients were discharged with improvement.

Conclusion: The application of scales to assess the care provided by nurses is indisputable for the healing process, especially for patients with severe diseases of the urinary system.

Keywords: assessment scales, needs, health care,

INTRODUCTION:

Special care for seriously ill patients with urological diseases such as urinary retention and malignancy is essential to achieve the best quality of life for these people. Documentation is an important step towards ensuring accuracy and continuity of nursing interventions [1, 2, 3].

The Care Needs and Dependency Assessment Scales (CASs) are the result of a number of studies and have been designed for the benefit of patients and healthcare professionals. The use of CASs in nursing practice would increase the ability to determine individual patient needs, implement appropriate interventions, and objectively assess the quality of patient care [1, 4].

Care, as interventions or activities, is a measurable quantity that determines the effectiveness of treatment for a patient. Quality assessment involves different approaches and tools, with standardized indicators being a key element, which include: number, qualifications and skills of healthcare professionals, and/or patient complications in patients occurring as a result of the care provided [1, 4].

The assessment of patient function is an essential part of medical practice. A range of measurements is being carried out by nurses to improve assessment methods, for example, in terms of improving measurement tools. To optimize any tool, data are needed, for example, subjective information is obtained from the patient, the patient's relatives and the accompanying documentation [1, 2]. To collect objective information, there is a need for the use of rating CASs, indices and other similar practice-proven tools to enable objective determination of individual patient needs.

Various tools have been developed and applied in the world practice for the objective assessment of the patient's condition, and for the purpose of the study, the following are included:

- the Barthel Index,
 - the Functional Independence Measure (FIM) Scale,
 - the D. Waterlow,
 - the Johns Hopkins fall risk assessment tool (JRA)
- [5, 6, 7, 8, 9].

The assessment scales presented correspond to 14 basic human needs according to V. Henderson and are within the competence of nurses. Through CASs corresponding to nursing competencies, patient health information is collected (Health Assessment in Nursing), through which the nurse determines the assessment framework by which the patient's needs are validated and priority problems are identified. The nature of the scales, as well as their application in international practice, provides a reason to initiate their implementation in Bulgaria as an innovative tool in the field of health care [2, 5, 9].

The **purpose** of the study was to analyze the ability of nursing students participating in a circle on "Innovative Approaches in Nursing Care, through an assessment toolkit" by using CASs to identify the specific health care needs of patients with urologic disease.

To achieve the main objective of the study, the following task was set: to analyze the results of the assessment of patient needs and requirements for each of the scales provided and to plan and document the interventions needed according to the levels of care dependency.

MATERIAL AND METHODS:

The report was made as part of a project entitled: "Approaches to Nursing Care Planning for Patients with

Socially Significant Illnesses Using an Assessment Toolkit".

A documentary method was used to record the care of two patients hospitalized for treatment at the Urology Clinic of the University Hospital "Dr. Georgi Stranski" – Pleven.

The documentary method was used to gather information on the structure and organization of health care in a hospital setting for two patients with urological/ chronic diseases in severe general condition. The method included an individual patient assessment form with three scales applied and a fourth scale added to assess the degrees of care dependency, and a sample individual nursing care plan.

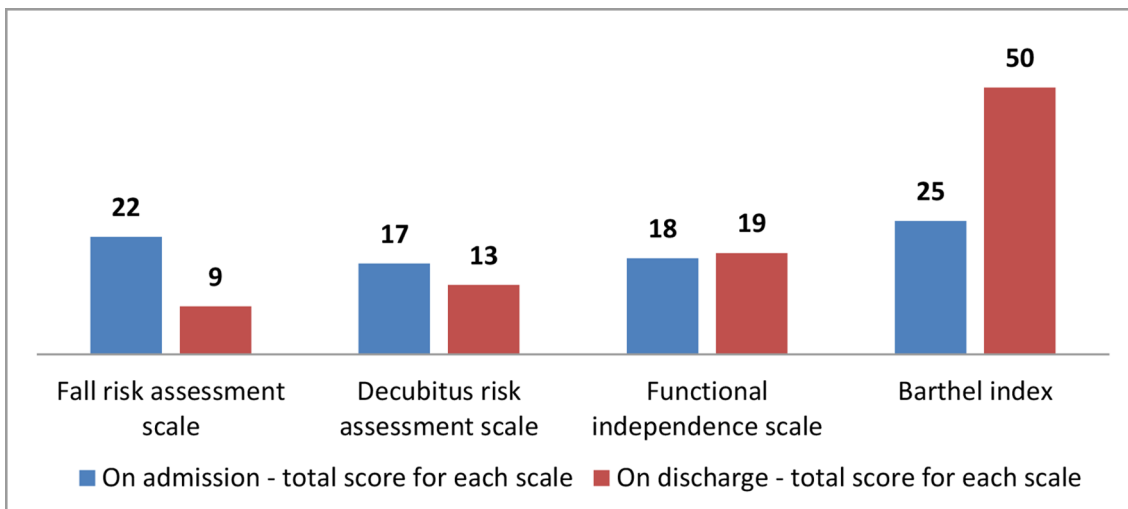
Statistical methods: the results were processed using SPSS 25.0 and Microsoft Excel 2010. Graphical analysis - MS Excel for Windows 2010 was used to present the results. Classical methods were used to analyze the results, which are presented in absolute numbers due to the small number of cases in the different categories of variables.

RESULTS

The first patient was a 73-year-old patient in severe general condition with urinary retention admitted to the Urology Clinic of the University Hospital "Dr. Georgi Stranski" – Pleven in the period of 12.05.2024 to 20.05.2024.

The second case was a 73-year-old patient with bladder cancer and comorbidities. The patient was hospitalized in the Urology Clinic of the University Hospital "Dr. Georgi Stranski" – Pleven in the period of 06.05.2024 to 21.05.2024.

Fig. 1. Representation of the degrees of dependence on care for each of the proposed scales for patient 1



Legend:

- **Fall risk scale** - higher number of points corresponds to higher risk; 6-13 points moderate risk of falling; >13 points total high risk
- **Decubitus Risk Rating Scale** - higher number of points corresponds to higher risk; 1-9 points no risk; 10 points some risk; 11-15 points high risk; 16-20 points very high risk
- **Functional Independence Scale** - a higher number of points corresponds to higher independence
- **Barthel Index** - higher scores correspond to higher independence

Table 1. Assessment of the needs of patient 1 on the Functional Independence Scale and Barthel Index on admission and discharge

functional independence scale needs	admission	discharge	barthel index needs	admission	discharge
A. Nutrition	1	1	Nutrition		
B. Cultivation	1	1	0 = impossible		
C. Bathing	1	1	5 = needs help with cutting, buttering, etc. or needs a modified diet	✓	✓
D. Dressing - upper body	1	2	10 = regardless		
E. Dressing - lower body	1	1	Bathing		
F. Toilet	1	1	0 = dependent	✓	
Sphincter control			5 = independent (or in the shower)		
G. Urination	1	1	Personal care		
H. Defecation	1	1	0 = needs help with personal care	✓	✓
Moving			5 = independent facial/hair/teeth/shaving		
I. Bed, Chair, Wheelchair	1	1	Dressing		
J. Toilet	1	1	0 = dependent		
K. Bath, Shower	1	1	5 = needs help but can do half of activity	✓	✓
Getting around			Pelvic tanks - intestinal tract		
L. Walk/ Stroller	1	1	0 = incontinent (or needs enemas)		
M. Stairs	1	1	5 = incontinent at times	✓	
Communications			10 = controlled		✓
N. Understanding	1	1	Pelvic tanks - bladder		
O. Expression	1	1	0 = incontinent or catheterized, unable to self-serve	✓	
Cognitive functions			5 = incontinent at times		✓
P. Social interaction	1	1	Use of toilet		
Q. Problem solving	1	1	0 = independently		
R. Memory	1	1	5 = at times needs assistance	✓	✓
TOTAL SCORE	18	19	10 = no impairment		
			Transfer (from bed to wheelchair and vice versa)		
			0 = not possible, cannot keep stable in the wheelchair		
			5 = with significant assistance (1 or 2 people, physical), can sit up	✓	
			10 = with little assistance (verbal or physical)		✓
			15 = independently		
			Mobility		
			0 = immobile or < 45 m	✓	

5 = independently in wheelchair, including in more difficult places, >45 m		
10 = walks with 1 person's assistance (verbal or physical) >45 m		✓
15 = independent (but may also use an aid, e.g. cane) >45 m		
Stairs		
0 = impossible	✓	✓
5 = needs assistance (verbal, physical, carrying)		
10 = independent		
TOTAL SCORE (0-100)	25	50

Legend:

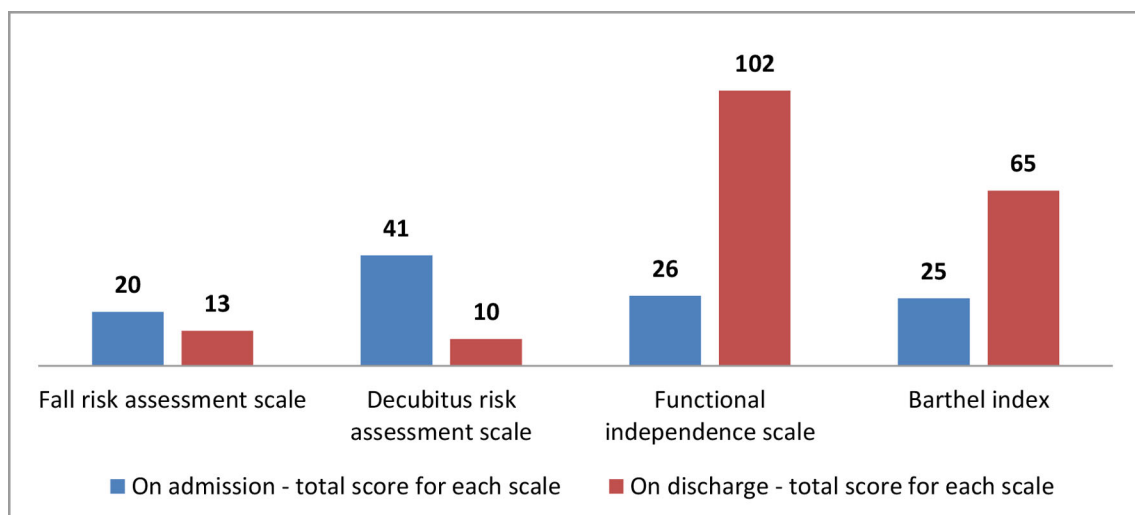
- **The Functional Independence Scale (FIS)** score of seven indicates that the patient is completely independent in that particular activity. A score of one on an item means that the patient needs full assistance with the activity. Therefore, the minimum FIS score is 18 and the maximum score is 126.

The full list of FIS scores is as follows:

1. Comprehensive care needed
2. Maximum assistance (you can perform 25% of the task)
3. Moderate assistance (you can perform 50% of the task)
4. Minimum help (you can do 75% of the task)
5. Supervision required
6. Modified independence (use an assistive device)
7. Task independence

- **Barthel Index** - Scoring is based on a total score from 0 to 100. Scores from 0 to 20 points correspond to complete dependence, from 21 to 60 points to marked dependence, from 61 to 90 points to moderate dependence, from 91 to 99 points to near independence in daily life

Fig. 2. Representation of the degrees of dependence on care for each of the proposed scales for patient 2



Legend:

- **Fall Risk Assessment Scale** - higher number of points corresponds to higher risk; 6-13 points moderate risk of falling; >13 points total high risk

- **Decubitus Risk Assessment Scale** - higher number of points corresponds to higher risk; 1-9 points no risk; 10 points some risk; 11-15 points high risk; 16-20 points very high risk

- **Functional Independence Scale** - a higher number of points corresponds to higher independence

- **Barthel Index** - higher scores correspond to higher independence

DISCUSSION

The two hospitalized patients had similar characteristics, but there were also differences that determined individual assessments and care.

The 73-year-old patient, or referred to as Patient 1, weighing 92 kg and standing 186 cm tall, was admitted as an emergency on 12 March 2024. The patient's problems, as described in the nursing documentation prepared explicitly for the study, were related to severe lumbar pain, urinary retention, febricity, and anaemic syndrome. The patient also had comorbidities that contributed to his severe general condition. The comorbidities are Type 2 Diabetes and Bladder Carcinoma. The medical diagnosis with which he was admitted to the ward was Hydronephrosis sinistra, the time of onset of the main symptoms being prior to hospitalization. Students rated dependence on care both on admission and discharge on the four scales presented in Fig. 1.

Table 1 details Patient 1's scores according to the Functional Independence Scale and Barthel Index, covering 14 or more human needs.

The second patient, for whom the students of the circle activity have made an assessment, planning and implementation of special care, is a 73-year-old patient weighing 93 kg and 176 cm tall, with bladder cancer and comorbidities: arterial hypertension, chronic obstructive pulmonary disease, type 2 diabetes mellitus. The patient's problems described in the nursing documentation specifically prepared for the purpose of the study are related to the presence of haematuria and bladder carcinoma as of 2020, and vascular dementia unspecified as of 05/13/2024.

The students successfully assessed patient 2's care dependencies at both admission and discharge using the four scales presented in Fig. 2.

Needs assessment is accurately placed based on the values and criteria stated by its researchers on each scale.

Patient 2 had significantly higher scores/independence on the FIS with a total score on admission to the ward of 26 points and on discharge of 102 points. In the Barthel index, the total score was 25 points on admission and 65 points on discharge, which visualizes and documents the better condition of the patient on discharge.

From Fig. 1, it is clear that according to the results, patient 1 was admitted with a high risk of falling, a very high risk of decubitus, needed comprehensive care according to the FIS, and had a marked dependence on basic human needs according to the Barthel index. Table 1 shows that patient 1, according to the FIS, scored 1 point on all the criteria mentioned. At discharge, patient 1 had a moderate risk of falling, a high risk of decubitus, needed comprehensive care on the FIS, and a marked dependence on basic human needs according to the Barthel Index. Patient has minimal change in nursing intervention needs, which is also explained by indi-

vidual characteristics and comorbidities, not just care provided.

Fig. 2 shows that patient 2 was admitted with a high risk of falling, a very high risk of decubitus, needed comprehensive care according to the FIS, and had a marked dependence on basic human needs according to the Barthel index.

Patient 2 was found to be visibly better than patient 1. Patient 2 on admission to the ward scored 3 points for dressing upper and lower body; 2 points for urination and defecation, and 2 points each for bed-chair-carriage transfer and ambulation, other needs were 1 point.

Patient 2 was discharged with a moderate risk of falls, an existing risk of decubitus, minimal assistance to supervision according to the FIS, and moderate dependence according to the Barthel Index.

The patient's lowest score on the FIS at discharge was 5 points, and he received a maximum score of 7 points for eating; dressing upper and lower body; bed-chair-cart transfer and ambulation.

On the Barthel Index, the patient's score was similar to the FIS score, i.e. both scales showed the same overall scores. The patient transitions from a dependent state to an independent state, similar to the needs described in the FIS.

The needs assessments made for both patients were reflected in an individual care plan, including the following criteria: physical activity; respiratory support; physiological secretions; nutrition and fluid intake; hygiene care; prevention of decubitus; maintenance of normal body temperature and communication with the patient.

Each of the criteria contains the following stages:

1. identification of needs based on assessment,
2. goal,
3. nursing intervention.

For each stage, the student selects the correct one for the patient.

Nursing needs and interventions are adapted by NANDA (North American Nursing Diagnosis Association) to the competencies of nurses in Bulgaria. The students selected those that met the patient's needs, goals, and activities regarding his/her health [10, 11].

Patients admitted for treatment with sequelae of cancer affecting the urinary system/bladder and comorbidities require specialized and intensive care [3, 7]. Considering their age, they also need care concerning the musculoskeletal system, which is related to their motor activity [12, 13, 14]. A successfully implemented intervention plan is of utmost importance to improve the patients' condition and received an "excellent" mark from the attending physician and the senior nurse on all four possible scales. The planning was achieved through a pre-structured sample individual nursing care plan [1, 7, 15].

CONCLUSION

The importance of the documented care provided by nurses is indisputable for the healing process for critically ill patients with urological diseases.

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Address for correspondence:

Meglina Marinova Balaburova, PhD
Department of Therapeutic Nursing Care, Faculty of Health Care, Medical University - Pleven,
1, Kl. Ohridski Str., Plevna 5800, Bulgaria.
E-mail: meglina_balaburov@abv.bg.