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## The use of assesment tools in geriatric nursing

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## Використання інструментів оцінки у гериатричній медсестринській справі

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### Introduction

The assessment of the geriatric patient represents a basic tool and a supporting part of the nursing process, which is a rational and systematic method of providing nursing care. The nurse uses the obtained data to be able to properly plan nursing care and effectively evaluate its implementation. By using assessment tools, the nurse assesses risk areas or areas in which a deficit has already occurred. The use of assessment tools is not strictly tied to the assessment phase, their use is possible across all phases of the nursing process. In the evaluation phase, they provide feedback on the quality of nursing care and inform us about the fulfillment of the planned objectives in care [1]. Nowadays, nurses have at their disposal a whole range of assessment tools and measurement techniques in various areas, from nutrition, through consciousness, pain, mobility, cognitive functions, skin integrity to swallowing and breathing. Experience from practice shows that the rate of acquisition of basic knowledge about assessment tools among nurses is different. It clearly depends on the method of education, the method used and the process of consolidating the acquired knowledge, by which the healthcare worker becomes familiar with the given assessment tools. Last but not least, the practical use of these tools in everyday practice also plays an important role. However, it is clear that the use of assessment tools and assessment scales is absolutely necessary to achieve the quality of the information that were obtained in the phase of the patient assessment and diagnostics [2].

### Results and discussion

#### Assessment of the geriatric patient's self-sufficiency

The most widespread and frequently used assessment tools for assessing the self-sufficiency of a geriatric patient include Barthel's test of basic daily activities (ADL – Activity of Daily Living) and the test of instrumental daily activities IADL (The Lawton Instrumental Activities of daily Living). The Barthel Test – ADL was developed by Barthel and Mahoney in Maryland in 1965 to assess a patient's self-sufficiency. There are 10 areas in ADL that are assessed. The areas are related to individual daily activities of self-care and walking. Each area is evaluated with points from 0,5 to 10

points. If the patient is able to perform the activity independently, they receive 10 points, if they are evaluated with 5 points, they require the assistance and help of another person, and we give the patient 0 points in the given area if they are unable to perform the given activity. A patient with high dependence on another person is evaluated by the sum of points up to 40, moderate dependence is defined by points in the range of 45-60 points and a patient with small dependence gets an ADL score of 65-95 points, and an independent patient gets above 95 points [3]. The second type of assessment tool in the field of self-sufficiency is the IADL test – a test of instrumental activities, the authors of which are Lawton and Brody. The tool is more complex than the ADL and was originally created for the purpose of the assessment of the need for individualized care and for the planning needs of community services. Assessment through the IADL test allows nurses to determine the type and extent of assistance a geriatric patient requires. Areas of patient assessment are ADLs + ability to transport, making phone calls, shopping, cooking, housework, garden work, medication and finances management [4].

The functional measure of independence (FIM – Functional Independent Measures) is a tool that evaluates a person's physical, cognitive abilities and their social relations to the environment. This tool is useful for the assessment of the benefit of the chosen intervention, either rehabilitation, nursing or occupational therapy. The area of self-service, elimination, locomotion, mobility, social adaptability and communication is evaluated. Each area is evaluated from 1-7 points, where 7 points means the individual is completely independent [3].

The nursing burden test according to Svanborg focuses on the assessment of the abilities in the area of movement, the ability to independently eat, wash, go to toilet, evaluates urinary and stool incontinence, cooperation with the patient and pressure ulcers. In each area, the patient receives 1-5 points, 0 points means self-sufficiency and 38 points means full dependence of the patient on another person [5]. The Katz Independence Index is a tool that assesses daily activities in 6 areas – bathing, dressing, mobility, continence, eating and using the toilet. The maximum possible number of points obtained is 6 points, which means full function, a score of 4 points means a moderate impairment, 2 points and less

means a severe functional impairment. The use of the Katz index is not recommended in acute care [4].

#### **Assessment of mobility and the risk of falling**

Zrubáková et al. [5] state that in Czech hospitals, the classification of patients according to their movement is used, where 0 is given to a patient who has furlough, 1 is given to a self-sufficient patient, 2 to a partially self-sufficient patient, 3 is given to a lucid patient, 4 to an immobile patient and 5 is given to an unconscious patient. When assessing mobility, the mobility screening test (MST) according to Topinková and Neuwirth from 1993 is often used, where we assess the mobility, stability, muscle strength and knowledge of the patient. The mobility test includes areas such as the ability to walk and turn, the ability to sit and stand, the ability to stand and balance, the ability to bend forward and back. The nurse assesses whether the individual activities that the patient performs are abnormal or normal. Muscle strength, mobility, stability, agility and stability are assessed. The aim is to identify at-risk seniors in terms of the risk of falls and injuries [6]. In the area of mobility, the area of balance is also evaluated in the elderly patients. The most widely used assessment tool is the balance and walking test according to Tinetti. It is an assessment that monitors the clinical severity and possible consequences of the patient's limitations. The maximum number of points obtained is 28, with 26 points or less the result is abnormal and below 19 points there is a high risk of the patient falling [3]. Gait's functional test is carried out in such a way that the patient is asked to sit in a chair for 60 seconds, then stand up and stand for 30 seconds, walk around the room, turn around and return to the chair on which he or she sits. If there is no loss of balance or holding to objects, the test is negative. The author emphasizes that the patient's walking speed is important, while it is true that the faster the speed, the better the patient's prognosis [7].

#### **Pain assessment in geriatric patients**

As part of nursing care, when assessing pain, the nurse assesses its nature, intensity, localization, evocatory and alleviating factors. The most common assessment tools include verbal and non-verbal scales, visual scales and questionnaires. The most well-known and very often used is the visual analogue pain assessment scale (VAS – Visual Analogue Scale), which provides us with information about the intensity of pain. It is a scale from 0-10, where 0 means no pain and 10 represents excruciating pain [3]. Libova et al. [1] report that the visual analog scale ranks among the most reliable and sensitive assessment tools in the assessment of the patient's pain. The functional pain scale (FPS – Functional Pain Scale) is also used to evaluate the intensity of pain, where on a scale from 0-5 the patient gets 0 if he or she has no pain, 1 – mild pain, 2 – annoying pain, 3 – strongly stressful pain, 4 – very severe pain, 5 – devastating, unbearable pain [3]. An image of a human figure and a pain map according to Margoles from 1983 are available for use in pain assessment, where the location of pain, the degree of pain, and the intensity of pain are indicated using colors. Similar is the pain map according to the author Kreschem, on which the patient also marks the location of the pain [8]. The Melzack scale is used to verbally

assess the intensity of pain using adjectives and records the numbers from 0 to 5. The recording can be repeated several times a day and the values recorded in a table where the date, time, intensity, localization, administration and effect of analgesics are recorded. The McGill Pain Questionnaire (MPQ) is considered to be the most effective pain assessment questionnaire. Thanks to this questionnaire, we can assess the dimensions of neuropathic pain, it provides a description for measuring sensory and affective areas in pain [3].

#### **Assessment of nutritional status**

Pokorná (2013) emphasizes that in this direction it is crucial for nurses to know terms such as hypo-nutrition, total reduction of nutrition, malnutrition, nutritional disorder in the sense of lack of certain nutrients, for example kwashiorkor, where there is a serious lack of protein, a decrease in appetite and reduced requirements for food selection [7]. The basic nutritional screening is according to Cetlova et al. [8] a test that assesses unintentional weight loss in the last 3 months accompanied by vomiting, diarrhea or loss of appetite, where the point score is from 0 to 3 points. For each item and for obtaining more than 3 points, a consultation with a nutritional therapist or doctor is required. The evaluation of the body mass index (BMI) is important, which determines whether the patient is underweight, normal weight, overweight or obese I–III degree. Calculating BMI is easy to do when we know the patient's weight and height by calculating according to the formula  $\text{weight (kg)} / \text{height}^2 \text{ (m)}$ . The mini nutrition assessment (MNA) questionnaire, created by the author Guigoz and his team in 1994, detects the risk of malnutrition. It contains 18 items from the field of anthropometric measurement, subjective description of one's own health and nutrition, eating habits. The assessed patient can get 0-29 points, where 24 points and more mean normal nutrition, 23.5-17 points mean a threatening risk of nutritional disorder, and below 17 points the patient's malnutrition is proven. The Mini Nutritional Assessment Short Form (MNA-SF) is a modified, shortened version of the MNA from 2009 that contains 6 questions where the nurse identifies food intake, weight loss, mobility, psychological stress, presence of cognitive impairment and acute illness. The highest possible number of points achieved is 14. The point interface of 12-14 points means a normal nutritional status, 11 or less points mean the need for further reassessment of nutrition and determination of intervention [3]. The Nottingham Screening System is used primarily in hospitalized patients to assess the level of risk of malnutrition. It contains 4 areas of Body Mass Index evaluation, assessment of weight loss and reduction in food intake in the last 3 months and a stress factor [7]. Nutritional Risk Screening (NTS) is an assessment tool that was published in 2003 by the European Society of Parenteral and Enteral Nutrition. it includes a primary screening focused on BMI and, in connection with the patient's age, an evaluation of the risk that arises from the area of nutrition. The gets from 0 to 6 points, where 3 or more points mean the risk of malnutrition [3].

#### **Assessment of cognitive functions**

The Geriatric Depression Scale (GDS), which is very often used in the assessment of geriatric patients, is

recommended for an indicative assessment of depression in geriatric patients. A shortened version with a faster filling method that contains 15 items [7] is also available. Other assessment tools for assessing depression include the standardized assessment according to the Czech author Tošnerová and the Beck Depression Inventory (BDI). The Beck's scale is a self-report questionnaire that assesses pessimism, mood, feelings of failure, dissatisfaction with activities, self-hatred, suicidal thoughts, perception of social isolation, self-appearance, lack of appetite and fatigue [10]. When evaluating cognitive functions, the Standardized Mini mental Test Examination – (MMSE), also called the Folstein test according to the author, is quite often used. It consists of 30 items that test cognitive functions such as orientation, memory, attention, calculation, equipment, speech fluency, speech understanding, one item is devoted to spatial functions. The tool is easy to administer, not time-consuming and has good psychometric properties. Each item is evaluated with 1 point, in the sum of the points. An advanced form of dementia is indicated with a score of 10 or less. Average cognitive impairment is 10-19 points in the point assessment. Mild cognitive impairment is 20-24 in point assessment. A score of 25-30 points means the norm. Its repeated use is recommended, as its sensitivity increases [10]. Nasredin's test (MoCA test – Montreal Cognitive Assessment) contains 13-point items, which focus on orientation, skill, animal naming, attention, repetition of words, letters, subtraction, abstraction and equipment. Using that tool, it is possible to detect mild cognitive impairment or a mild form of dementia with a score below 26 points. The maximum point score is 30 points [3]. The seven-minute test (7MST – 7Minute Screen) enables the assessment of speech, memory, visual functions and orientation. This assessment tool makes it possible to differentiate Alzheimer's dementia from a cognitively intact person. Clinical Dementia Rating (CDR) is a tool that is implemented by interviewing the patient and the person, who cares for the patient. In addition to memory, orientation, problem solving, it also assesses social life, work around the house, hobbies and self-care. Thanks to Alzheimer's Disease Assessment Scale (ADAS) test, it is possible to compare the changes in the patient's cognitive functions before the start of treatment and to monitor it over time. The Hachinsky score evaluates the symptoms of dementia. The resulting score of up to 4 points determines the probability of Alzheimer's disease, 5-6 points can reveal mixed dementia, and more than 7 points mean dementia of the vascular type [8]. Delirium can be assessed using the delirium assessment scale (CAM – Confusion Assessment Method), which consists of items that assess acute changes in mental state, lack of concentration,

inattention and alteration of consciousness. Another delirium assessment scale is The Delirium Observation Screening (DOS) that consists of 21 items, which we use to assess the early signs of delirium. Neelson, Champagne (NEECHAM) is an assessment test that was developed with the help of nurses and their experience in clinical practice to assess acute confusion states [3].

#### Assessment of the risk of pressure ulcers

Frequently used assessment tools in Slovakia and the Czech Republic include evaluation tools such as assessment according to Norton, Braden, Waterll, as well as assessment according to Knoll, Shannon and Braden. Foreign literary sources present not only original, but also modified assessment scales and scales that are specific for use according to the type of workplace [11]. According to Braden scale, the scale includes the assessment of skin moisture, degree of physical activity, sensory perception, mobility, nutrition, friction and shear force. With a result from 6 to 9 points, there is high risk, 9-16 points represent medium risk and 16-20 points represent low risk, and above 20 points represent very low risk of pressure ulcers in the patient. The scale according to Waterlow was compiled on the basis of the research done in 1985 in England. Areas assessed are body constitution, weight, continence, skin type, mobility, gender, age, appetite. The effects of drugs, surgical interventions, and diseases are mentioned as very risk factors. A score from 15 to 20 points indicates a high and above 20 points a very high risk of pressure ulcers. One of the oldest, but also the most widespread scales is the Norton scale, where we evaluate the patient's physical state, mental state, activity, mobility and incontinence. A high risk of pressure ulcers is presented by a score of 12 or less points, 12-13 points mean medium risk and points above 14 represent low risk of pressure ulcers [7].

#### Conclusions

At senior age, each individual is subject to involuntional changes. Associated diseases emphasize the patient's aging process [12]. Growing competencies of nurses, as well as their growing professionalism and striving for the autonomy of the nursing profession, lead to the need for the nurse to represent an erudite member of the multidisciplinary team. When approaching seniors and ensuring the provision of high-quality nursing care, it is essential that nurses work with the nursing process method and actively use evaluation tools for the patient's assessment, which significantly improve the quality and efficiency of the nursing care for geriatric patients.

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Дата надходження рукопису до редакції: 19.08.2022 р.

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The care of a geriatric patient has its particularities. Each geriatric patient suffers from syndromes that are characteristic of this age. In the work of a nurse who is caring for geriatric patients using the nursing process method, measuring scales and evaluation tools play an irreplaceable role, especially when assessing a geriatric patient.

**The aim** of the paper is to summarize the available assessment tools that are suitable for use in geriatric patients.

**Methods:** the method of literature review was used.

**Results.** We summarize the available evaluation tools and their possibilities of use in geriatric nursing in the area of self-sufficiency, movement, risk of pressure ulcers, in the area of assessment of nutrition and cognitive functions.

**Conclusions.** The use of evaluation tools in geriatric nursing brings benefits not only for the patient but also for the nurse. Their use is possible not only in the assessment phase, but continuously during the entire approach to the geriatric patient.

**Key words:** geriatric patients, assesment tools, nurse.

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Догляд за геріатричним хворим має свої особливості. Кожен геріатричний пацієнт страждає від синдромів, характерних для цього віку. У роботі медичної сестри, яка обслуговує геріатричних хворих за методом сестринського процесу, вимірвальні шкали та інструменти оцінки відіграють незамінну роль, особливо при оцінці геріатричного пацієнта.

**Мета** статті полягає в тому, щоб узагальнити доступні інструменти оцінки, які підходять для використання у пацієнтів літнього віку.

**Методи:** використано метод огляду літератури.

**Результати.** Ми узагальнюємо наявні інструменти оцінки та їх можливості використання в геріатричному догляді в області самодостатності, руху, ризику пролежнів, в області оцінки харчування та когнітивних функцій.

**Висновки.** використання інструментів оцінки в геріатричному догляді приносить користь не тільки пацієнту, але й медичній сестрі. Їх використання можливе не тільки на етапі оцінки, а й постійно протягом усього підходу до геріатричного пацієнта.

**Ключові слова:** геріатричні хворі, інструменти оцінювання, медсестра.

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**Конфлікт інтересів:** відсутній.

**Conflicts of interest:** absent.

#### Відомості про автора для листування

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