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**Assessment of health problems and functioning of elderly patients in relation to the level of independence in meeting bio-psycho-social needs**

**Introduction:** Aging is an integral part of human life. It is a natural process that takes place in many dimensions - biological, psychological and social. Older people often struggle with numerous problems affecting their functioning, independence and self-care. Comprehensive multi-aspect assessment of health problems is a standard in geriatric care.

**Aim of the study:** The aim of the study is to analyze the health problems and functioning of older patients in terms of assessing the level of independence in meeting bio-psycho-social needs and quality of life.

**Material and methods:** The research was carried out in the period from March 2019 to March 2020, in the Department of Geriatrics of the Collegium Medicum of the Nicolaus Copernicus University in Toruń in the University Hospital No. 1. dr A. Jurasz in Bydgoszcz. 151 people were qualified for the study, of which 50 did not meet the inclusion criteria, and 101 people were tested. The study was approved by the Bioethics Committee of the Nicolaus Copernicus University in Toruń at Collegium Medicum im. Ludwik Rydygier in Bydgoszcz KB No. 346/2019. The following research tools were used to assess the frailty syndrome: SHARE Frailty Instrument (SHARE-FI), Tilburg Frailty Index (TFI). The following were used to assess cognitive functions and mental state: Short Mental Assessment Scale (MMSE), Montreal Cognitive Assessment Scale (MoCA), and Geriatric Depression Rating Scale (GDS). The assessment of functional efficiency was made using: Assessment of Basic Activities of Daily Living (ADL), Assessment of Complex Activities of Daily Living (IADL). The assessment of the fulfillment of needs was measured using the Care Dependence Scale (CDS), the quality of life

was carried out using the Short Version of the Quality of Life Questionnaire (WHOQOL-BREF), the assessment of nutritional status was carried out using the Mini Nutritional Assessment (MNA). Additional tools were also used in the work: ankle-brachial index (ABI), Tanita type body composition analyzer, measuring the range of hand grip strength. Biochemical tests (fasting glucose, total cholesterol, HDL, LDL, non-HDL, triglycerides) were also performed.

**Results:** The mean age was  $71.3 \pm 6.7$ . The study group was characterized by a greater number of women (87%), living mainly in cities, secondary education and average income. Frailty syndrome was detected in 19.80%, pre-frail 33.66%, and non-frail 46.54%. Patients with frailty syndrome were characterized by: greater dependence on care ( $p=0,005$ ), higher TFI frailty index ( $p=0,001$ ), more disease entities ( $p=0,001$ ), polypharmacy ( $p=0,013$ ), lower ADL ( $p=0,053$ ), higher risk of depression ( $p=0,004$ ), lower level of cognitive function in MMSE ( $p=0,01$ ), and MoCA ( $p=0,001$ ), weaker grip ( $p=0,008$ ;  $p=0,035$ ) better nutritional status MNA ( $p=0,053$ ). In the category of anthropometric measurements, people with frail had larger calf ( $p=0,006$ ) and waist ( $p=0,019$ ) circumferences, BMR ( $p=0,036$ ). The risk of cardiovascular disease in the frail group was increased by a higher WHR in the group of women and men, higher glucose and cholesterol levels. The ABI measurement indicated incorrect average results in the entire study group.

**Conclusions:** Frail older people were affected by multiple diseases, polydrug use, greater dependence on care, lower functional capacity, higher risk of depression and decreased cognitive functions. There was a significantly higher risk of visceral obesity in women and men in the frail group. Other parameters, such as cholesterol level and ABI index, did not differentiate the study groups.

**Key words:** elderly people, health problems, bio-psycho-social needs, independence, functional ability, quality of life

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