

## **Functional capacity of elderly and its assessment**

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### **ABSTRACT**

#### **Introduction**

Disability is becoming progressively more common. It is defined as a limitation in the ability to carry out basic functional activities. A functional ability is determined by many convergent factors. The main cause is physical disability, resulting from many highly various diseases. Further, functional capacity of elderly depends on social and financial support, and the environment.

#### **Objectives**

The aim of this study is to present issue of functional capacity of elderly people and its assessment tools.

#### **Results**

Examination of geriatric patient should be complex. If functional capacity is mentioned, physician is expected to assess patient`s chronic diseases, emotional state and social situation. Then, use of validated tools should be performed. These are ADL, IADL, Barthel Index and FIM.

#### **Conclusions**

When taking care of older people, the assessment of functional status is pivotal. Performing such assessment give many possibilities to physician that help improve patient`s quality of life

and everyday safety. Use of validated tools facilitates obtaining some objective data about patient general health status and comparison with the results of tests obtained after the lapse of time, thus detecting new problems becomes easier. The most commonly applied instruments are ADL, IADL, Barthel Index. Even though, these tools are effective in assessment of elderly functional capacity, a full comprehensive geriatric assessment should be performed after implementing them.

**Keywords:** Functionally-Impaired Elderly, Aged, Geriatric Assessment

## INTRODUCTION

The human population is aging worldwide. Reaching an older age by an increasing number of people results in a change in the structure of incidence and morbidity rates. Disability is becoming progressively more common. It is defined as a limitation in the ability to carry out basic functional activities. As the disability progresses over time, the patient requires assistance in performing everyday activities. At the beginning, difficult to perform become complex everyday life actions as examined in The Lawton Instrumental Activities of Daily Living Scale (IADL) [1], for example handling finances, managing own medications, shopping, food preparation and housekeeping. Progression of disability leads to further functional decline in elderly and personal hygiene, dressing, eating or even controlling bowel and bladder develop into impossible matter.

A functional ability is determined by many convergent factors. The main cause is physical disability, resulting from many highly various diseases. One of the most common is osteoarthritis [2]. Elderly affected by this condition frequently report severe pain when ascending or descending stairs, entering or leaving the car, and performing demanding domestic works [3]. The development of articular cartilage degeneration leads to limitation of movements, rigidity or severe pains also during rest. Over time, the individual's ability to leave the house, move around the apartment, get out of bed is reduced. Visual and hearing impairment impact on functional capacity has been described as non-positive [4]. The mentioned disorders also negatively affect intellectual activities. Moreover, congestive heart failure is reported to bring substantial impairment in quality of life and functional capacity [5]. Generally, heart and pulmonary disease (for example chronic obstructive pulmonary disease) result in aerobic activities like housework, ambulation [6]. Metabolic illnesses like diabetes, obesity also

negatively affect functional capacity due to problems with movement and complications (retinopathy, polyneuropathy, ischemic heart disease). Disability can be triggered by stroke or advanced cancer and psychiatric problems like dementia and depressive disorder may contribute as well.

Further, functional capacity of elderly depends on social and financial support, and the environment. According to Seemam et al. [7], deficits in the instrumental, material support are related to higher risk level of physical disability among men and reduction of incapacities in women may be attributed to emotional support.

What is more, there are some factors identified as protective to functional decline development, as maintaining paid work, having monthly relationship with friends and undertaking leisure time activities [8].

## **OBJECTIVES**

The aim of this study is to present issue of functional capacity of elderly people and its assessment tools.

## **RESULTS**

Examination of geriatric patient should be complex. If functional capacity is mentioned, physician should assess patient`s chronic diseases, emotional state and social situation. Then, use of validated tools should be performed.

## **SCREENING TOOLS**

### **THE LAWTON INSTRUMENTAL ACTIVITIES OF DAILY LIVING SCALE (IADL)**

The Lawton Instrumental Activities of Daily Living Scale (IADL) [1] is an easy to administer in primary care measure. It provides data about instrumental, functional skills. The measure assesses ability to use telephone, shopping, food preparation, housekeeping, doing laundry, used mode of transportation, responsibility for own medications and ability to handle finances. It concerns more complex activities than Katz ADL, undergoing deterioration first. The maximum score is 8 points. The total number of points is relevant only in relation to a specific patient. It brings some information on how a person is performing at the present time. IADL used over time, may act as documentation of enhancement of a person's functional capacity or functional disintegration. Administration of the instrument takes approximately 10-15 minutes.

## **THE KATZ INDEX OF INDEPENDENCE IN ACTIVITIES OF DAILY LIVING (KATZ ADL)**

The Katz Index of Independence in Activities of Daily Living (Katz ADL) [9, 10] is a six item measure commonly used to assess patient functional capacity. It allows assessment of self-feeding, urinary and stool continence, transferring (from the bed on the chair), self-toileting, dressing and bathing. The independence in performing activities is evaluated. Patient scoring 6 points present full function, whereas scoring 4 points illustrates moderate impairment and 2 or less points suggests severe functional impairment. Katz ADL is described as the most appropriate scale to assess an independence in activities of daily living [11]. It takes generally 5 minutes to perform this test.

## **THE BARTHEL INDEX**

The Barthel Index [12, 13] is 10-item instrument. It is one of the most widely used tool providing information on patient's functional ability. It assess bladder and bowel continence, grooming, toilet use, transfer, mobility (use of wheelchair, walking with help), walking up and down the stairs and dressing. There are more activities included than in Katz ADL scale. The main goal of this instrument is to establish level of independence in everyday activities, therefore functional capacity. Patient can score 0 – 20 points. The lower score is, the patient is more disabled. Administration of the instrument takes approximately 5-10 minutes.

## **THE FUNCTIONAL INDEPENDENCE MEASURE (FIM)**

The Functional Independence Measure (FIM) [14, 15, 16] is a 18-item, more comprehensive measure, designed for rehabilitation setting. It empowers the assessment of functional efficiency in the field of self-service (among others attention to external appearance), continence of stool and urine, mobility and locomotion. Communication and social skills are also evaluated like interpersonal contacts, problem solving and memory. Each item is scored on a seven-point scale. The maximum result is 126 points, the minimum - 18. Higher score indicates for better functional efficiency.

## **CONCLUSIONS**

Healthy aging of individuals as well as many pathological conditions result in decline of elderly functional capacity. When taking care of older people, the assessment of functional status is pivotal. Performing such assessment give many possibilities to physician that help improve patient's quality of life and everyday safety. When the result of a appraisal is poor, healthcare professional may apply for some instrumental help to be given to his patient. Patient may receive help of social worker, making his existence better. Social services provide assistance in

domestic works, shopping, managing finances and health issues and even personal hygiene. Functional capacity estimate enables detecting problems that require personalized rehabilitation. Use of validated tools facilitates obtaining some objective data about patient general health status and comparison with the results of tests obtained after the lapse of time, thus detecting new problems becomes easier. The most commonly applied instruments are ADL, IADL, Barthel Index. More multifaceted FIM instrument although designed for the assessment of patients undergoing rehabilitation, it can also be used for functional assessment of older people . Even though, these tools are effective in assessment of elderly functional capacity, a full comprehensive geriatric assessment should be performed after implementing them.

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