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# Occupational Therapy for Elderly People

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## Abstract

The population of the elderly is raising in the improved countries with the death age becoming later in life due to the improvement of contemporary therapy approaches and socio-economic and cultural levels. Most older people with major disability of recent onset have the potential to benefit from geriatric rehabilitation. Rehabilitation for older people should have specific goals. Rehabilitation of elderly people involves an active process, delivered through a coordinated multidisciplinary team approach, aiming to improve function and enable subjects to live their lives to the whole potential. The major goal of rehabilitation programs for older people is to assist them to manage personal activities of daily living without the assistance of another person. Occupational therapy facilitates optimal occupational performance and community participation across the full spectrum of ability. In this chapter, there is information on the principles of occupational rehabilitation for elderly people and evaluation and different therapy approaches in occupational therapy.

**Keywords:** elderly, rehabilitation, falls, cognition, home visit

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## 1. Introduction

Aging is a physiologically inevitable process with chronological, social and psychological dimensions. Due to the physiological and physical changes that occur in the elderly in this process, some activities of the individuals are restricted or prevented from realizing these activities. These changes cause individuals to feel unhappy and especially affect the quality of life in terms of their health [1, 2].

In the old age period, the negativity of individual characteristics (poor socio-economic situation, low education level, gender, etc.), functional disorder, decrease in level of daily living activity,

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decrease in mobility, falling anxiety due to movement and vision problems, sleep problems, cognitive changes, other conditions and situations that cause disability lead to decrease in quality of life and social participation [3, 4].

The quality of life for the elderly in occupational therapy and social participation of examining the factors influencing factors within the framework of a holistic approach to people and the environment are examined [5]. Aging is defined as a part of life in which progressive physiological changes are accompanied by an increase in the prevalence of acute and chronic diseases. Decreased functioning of an organism, as well as the wasting of organs, tissues, and cells, reduces the ability of elderly people to adapt to environmental factors [6]. The reduction of the biological and physiological capacity of the individual is an inevitable part of aging. Aging is a process that negatively affects many living systems. Physiological and anatomical changes in the aging process also lead to functional disorders in the individual [7]. In this sense, quality of life is consisted of such as physical and financial well-being of individuals, social participation, participation in leisure time activities, psychological and emotional status, and family and social environment [8].

Today, we need to better understand the importance of physical functions in order to remember that elderly individuals are a productive part of society, to minimize the incompetence, limitations, discomforts that occur with aging, and to continue their lives independently. Physical functions can be explained by environmental factors, force, balance, other physiological and psychological ways [9, 10]. In the process of aging, such as the many changes in the human body, balance is also affected. In addition to being associated with inadequacy in geriatric age groups, these changes are also a cause of the increase in the rate of falls in older ages. Approximately one-third of geriatric individuals have a story of falling at least once every year, half of the individuals over 80 years of age [11, 12].

## **2. Home rehabilitation and housing regulations for geriatric people**

World Health Organization, home accidents, in the house and/or in the garden, in the garage, etc., are defined as any kind of accident that occurs in the parts connected to the house. Accidents usually seen at home: falling, boiling, burning, poisoning, cuts, electric shocks and drowning. In home accidents, children, elderly people, and physical, mental and social disabilities constitute the three most important risk groups. The elderly are most often affected by house accidents such as falling, burning and poisoning [13, 14]. Falling in geriatric individuals is an important factor that causes injuries and deaths. Due to falls, mobility problems and dependence in daily life activities are emerging. The incidence of falls increases with age, and 2–15% of falls result in fatal or life-threatening injuries such as fractures, head trauma or severe soft tissue trauma. Reductions in age-related physiological capacities increase the severity and severity of damage due to excess disease [15, 16]. These negative occurrences in geriatric individuals can cause falls. Falls of the most common places are the homes of individuals experiencing. Many accidents at home cause falling. Many of the falls are preventable with many causes [17, 18]. The falls are divided into individual and environmental factors. Various

physical and cognitive deficits such as dizziness, chronic illnesses, visual problems, sensory perception problems, neurological problems, psychiatric problems in the individual constitute individual factors. Environmental factors constitute the external environment in which the individual is home and interacting. In the home environment, Wet floor, Doorknob, Bathroom, Toilet, Kitchen, Carpet, Slippery floor, Inadequate lighting, The presence of an unbalanced object (TV cable, internet, electric cable) can cause many factors to fall. On the outside, the height of the cobblestone, unstable paving stones, rugged and/or icy roads is causing the factors to fall. Unsuitable shoes are other factors that may cause misuse of the substance, such as alcohol-drug intake [9, 19].

Home rehabilitation is important for eliminating the limitations of daily life activities that occur in geriatric individuals. Occupational therapist aims to provide active participation not only at home or in individual physical arrangements but also in each direction of the individual [20]. Geriatric individuals are subjected to home visits, home arrangements, caregiver training, and assistive technology design, especially due to hip fracture, amputation, various neurological diseases and various home accidents [21–24]. An interdisciplinary approach is important in home rehabilitation. House arrangements in home rehabilitation are important. It is aimed that the geriatric individual will have the independence of his/her life in-house arrangements. Home arrangements not only involve physical changes but also caregiver education, daily basic/instrumental life skills training, assistive technology use, and cognitive rehabilitation education. House arrangements include streets, streets, apartment entrances, staircases, elevators, home entrances and house parts.

Some of the considerations in-house arrangements can be summarized as follows [25]:

- Apartment and house entrance exits should be bright enough.
- Mailbox, doorbell and electric buttons should be easily accessible.
- The socket and buttons must be of phosphoric material at least 90–100 cm above the floor and visible in the dark.
- All doors must be without threshold.
- Door widths should be at least 100 cm and at least 80 cm.

#### **On the stairs:**

- A resting place and handrails in 8–10 steps should be intact.
- The steps should be of equal height and width.
- Stairs should be at the power switch or photocells.

#### **Bedroom:**

- Lighting and ventilation should be good.
- Bedroom, bathroom, and toilet should be close.
- The bedroom should have enough space to facilitate movement.

- Telephone, night lamp or switch must be in close proximity and prominence to reach the elderly.
- The individual's clothing and personal care materials should be within easy reach.

**Living room:**

- The individual should have adequate space, the room should be simple, not to interfere with the passage of goods.
- There should not be any twisted carpet/rugs/mats or cables that cause it to get stuck.
- Furniture materials such as chairs and tables should have a suitable ergonomic structure.

**Kitchen:**

- Countertop, cabinets, tables and chairs must be the person to the appropriate height.
- The buttons of the technological tools used must be clear and safety protection.
- The floor should not be wet.
- Electrical cables should be close to the stove and sink.
- The hob must be gas safety.
- Fire and gas alarms must be present.

**Bathroom and toilet:**

- Hold bars should be found. Diameters should be 4–5 cm. Height must be 90–100 cm or trochanter major.
- Bathtubs or high shower cabs should be avoided.
- The floor must be made of non-slip materials.
- The cables must be unplugged after using electrical equipment.
- Slippers should be slip resistant.
- It must be placed in the appropriate manner to the needs of the individual firm grip bars in the bathroom.

**Also:**

- All rooms should have adequate lighting.
- Special technological tools must be available in emergencies.
- You must write emergency numbers on the phone.
- Important materials such as drugs, telephone, alarm, etc. should be marked in distinct shapes.
- Explanatory text should be written to prevent the use of the wrong drug and special identification boxes should be used if necessary.

- The clothing should be ergonomic and not to cause it to fall off.
- Shoes, slippers should be ergonomic and non-slip.
- It should be explained that the bed should not be smoking. Smoking ashtrays must be deep.

### **3. Occupational therapy as a teamwork in care and rehabilitation services of elderly people**

Care and rehabilitation are two important issues that need to be addressed together. Rehabilitation aims to improve the quality of life by ensuring that elderly people cope with the difficulties caused by the chronic diseases they encounter in daily life. For successful rehabilitation, however, not focusing on physical function, it is necessary to determine that social and psychological problems from a broad perspective and appropriate approaches are needed.

Geriatric rehabilitation is the work of professional disciplines together for the improvement of physical and emotional capacities and the development of quality of life due to the chronic problems of the elderly. The decrease in the musculoskeletal system, cardiovascular system and neuromuscular response times with age affects the physical capacities of individuals negatively. The declining level of physical activity due to these adverse effects affects the roles of elderly individuals in society and in the family in a negative way. In addition to general systemic problems with age, falling fear, lack of motivation, and depression trigger the inactivity of the elderly. The physiotherapist and the occupational therapist are involved in the multidisciplinary team in the process of bringing the active role to the elderly individual. The physiotherapist plays a role in planning the personalized exercise program considering the general health level and physical activity level of the elderly as well as achieving appropriate ergonomic approaches by determining the limitations of the elderly at home and social environment. It is inevitable to increase the level of physical activity in order to enable older individuals to reactivate in society. Gaining exercise habits for elderly people helps to maintain functional performance levels and thus to maintain daily living activity levels. It is known that older people with physical activity habits have longer and better general health status than inactive individuals. Small gains at the functional level can cause significant changes at the functional level. Studies have proven that strengthening exercises, balance and coordination exercises and gait training increase the level of functional performance, quality of life and general health.

As a result of treatment of the elderly with acute illnesses in Geriatric Assessment and Treatment Units (GATU), the mortality rates were found to be quite low compared to general hospital clinics. Detailed evaluation of interdisciplinary and all related diseases, early mobilization/rehabilitation and discharge planning is carried out in GATU. In the rehabilitation of elderly patients, it is stated that a successful discharge is achieved by evaluating home visits, determining safety recommendations and helping vehicle requirements, especially when planning for discharge in hip replacement, amputation or stroke rehabilitation. The majority of elderly people have difficulty with functional activities, and elderly people are not aware that they can help themselves [26–30].

Today, home care services are carried out with the interdisciplinary team approach with the participation of different professions such as physicians, nurses, occupational therapists, physiotherapists, dietitians, psychologists, pharmacists, social work specialists, dentists and home economists. In countries where home care services are carried out, it is worth noting that the group that makes the most use of these services is the elderly. The home care model, which allows the elderly to present their health services at home, aims to increase the health and functionality of the elderly. It is also expected that the aging population will contribute to the economy by reducing hospital expenses. "Home health care programs" have been developed for the care of the elderly who have multiple problems and are therefore at high risk for disability. Models that offer flexible services to each elderly patient are planned as a complementary model to the hospital. In these models, it is aimed to prevent cognitive and functional impairment considering the care of elderly patients. Encouraging and motivating elderly individuals to exercise in the framework of home care model also affect the development of meaningful activity trainings for themselves in the long term in the development of physical and psychosocial health and well-being. According to the regulation, home care is the provision of health care and follow-up services by the health team to meet the medical needs, including rehabilitation, occupational therapy, physiotherapy and psychological treatment, in the environment where the physician suggests.

Examination, analysis, treatment, medical care, follow-up and rehabilitation services include social and psychological counseling services at home and in the family environment for the individuals who need to provide health services at home depending on their socioeconomic status. Within the team, occupational therapy service is applied as mobility, self-care and home improvement in many areas of assistive devices and home modifications to provide independence and security for the elderly. These practices can be based on the results of occupational performance assessments, using activities and organizing programs to help develop a healthy lifestyle, especially helping and giving advice to caregivers in physical activities, adapting the environment to day-to-day work and activities, and using assistive devices. According to the evaluation results, problems are encountered especially such as daily life teaching activities, transfer techniques, self-care, dressing, eating, kitchen security, organizational skills, writing, reminders, hiking, education etc. We also provide advice and trainings in the areas of leisure and productive activities that will improve performance and satisfaction. Teaching assistive device training and energy conservation techniques can provide to greater independence and security in household management, mobility and self-care areas to make things easier and to protect from secondary injuries. Home modifications are an important and widely used approach in the world for occupational therapy applications as a result of person-environment-occupation interaction especially for the elderly with activity performance problems in the home settlements. Recreational activity training in occupational therapy programs includes sensory stimulation, short question-and-answer games and puzzle activities, real orientation (exercise and movement, music, singing), painting and handicrafts, bingo, chess, table games, puzzles, music dance, expressive activities (drama), and person-centered education. In this training

program, the person is given the ability to determine his/her own future, the authority to implement the decisions, and the whole family is taken into the therapeutic program. The task of occupational therapy is to help improve the role performance of the elderly. The necessary compensation or new role finding for elderly people is essential in the future in order to increase the quality of life of these individuals. Through the "Reorganization of Life Style" programs, elderly people reorganize their roles and activities by entering into meaningful activities within health and daily routines. The elderly changes pre-cognitively in itself with the acquired experiences, then cognitively re-senses itself by reflecting it to itself. When choosing an assistive device for a person, many factors such as suitability to that person's individual needs should be considered. In patients with chronic arthritis, tools for reaching, magnifiers, holding bars, jar openers and hearing aids are used. In general, there is a high satisfaction with the use of assistive devices. Most of the devices are chosen for their participation in leisure activities and to be more active. The occupational therapy approach, a new area for elderly assistive devices, needs to be more informed about the prognosis [31–34].

#### **4. Cognitive rehabilitation**

As people age, changes in the brain can affect memory and cognition. The scope of these changes varies from person to person. It is important not to assume that an old person does not ignore changes in memory or personality, or that it is only a normal part of aging [35].

Cognitive skill is the process of using the information of the central nervous system. Cognitive disorders are difficulties in retrieving, evaluating, organizing, and interpreting information that develops due to brain impairment, which alters the answers generated by the person in his/her daily life [36]. Cognitive function refers to an individual's perceptions, memory, thinking, reasoning, and awareness. Along with physical decline, the decline in cognitive function is a hallmark of aging and is predictive of mortality [37]. Independence in the later stages of life is determined by both physical and cognitive abilities [38]. Among older adults, there is a range of skills ranging from normal cognitive function to broad cognitive functioning. Adequate cognitive functioning is required to perform simple activities of daily living such as eating and bathing and more complex tasks such as managing money, paying bills and taking medications. Cognitive function also affects an individual's ability to work and plays a role in retirement planning and decisions around pensions and savings. Because the estimated cost of dementia is too high, modifiable risk factors and early interventions to prevent cognitive decline and dementia are key priorities for policy-makers and for societies [39].

Many older people are worried that there is a loss of memory, and many are afraid of dementia, such as Alzheimer's disease [35]. The cause of all cognitive problems is not just Alzheimer's disease. There are a variety of possible causes from drugs, such as side effects from metabolic and/or endocrine changes, delirium from other diseases, or untreated depression. Some of these reasons may be temporary with appropriate treatment or may be reversed. Other causes

that cause cognitive problems, such as dementia, cannot be reversed, but symptoms can be treated for a while and families can be prepared for the future [35, 39].

Most patients with memory and other cognitive or behavioral problems want a diagnosis to understand why and what will happen [40–44]. Some patients (or families) are reluctant to express such problems because they are afraid of dementia and the dangers they may bring to the person and environment. In such a case, the prospect of early diagnosis of the patient and the relatives of the patient should be emphasized [39].

Cognitive assessment included an examination of higher cortical functions, particularly memory, attention, orientation, language, executive function (planning activities), and praxis (sequencing of activities). These are common and serious clinical syndromes affecting elderly people. Correct cognitive assessment is very important for diagnosis [45].

Cognitive deficits could also be a precursor to dementia. In that case, it is important to intervene at an early stage to prevent or delay conversion to dementia and to minimize the impact of these objective or perceived cognitive problems [46–49].

The main objective of cognitive interventions is to stimulate the cognitive system or offer compensatory methods to address difficulties with cognitive functioning. Cognitive interventions are usually separated into three categories: cognitive stimulation, cognitive training, and cognitive rehabilitation. These are:

Cognitive stimulation in a social setting such as reminiscence with reality orientation is associated with benefits in cognitive functioning as well as the quality of life, well-being, communication, and social interaction skills. Cognitive stimulation comprises involvement in group activities that are designed to increase cognitive and social functioning in a non-specific manner. Cognitive training is a more specific approach, which teaches theoretically supported strategies and skills to optimize specific cognitive functions. Cognitive rehabilitation involves an individualized approach using tailored programs centered on specific activities of daily life. Personally relevant goals are identified, and the therapist, patient, and family work together to achieve these goals (e.g., joining a social group) [49–51].

Reminiscence therapy, since the 1950s, uses a way to increase well-being for older people. There is no “standard” model for providing this therapy, but in general, the idea is to enable or encourage people to think or talk about personally significant events that occurred in the past [52].

In our country where the elderly population is increasing, ergotherapy is supported by the person-centered approach to fulfill the activities and roles of the elderly person. It is also aimed at the elderly to acquire or restore their reduced abilities due to disability or social influence and to improve or maintain their quality of life. With home visits, it is aimed to ensure that people stay in their homes for a long time and to make late applications to hospital/care centers. Facilitating early and safe discharge from the hospital, thus reducing dependency and institutionalization are other important points. With the trainings given to parents and caregivers, it is also one of the aims of ergotherapy to support both the elderly person and their caregivers with a more peaceful and quality life.

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