

Psychomotor disorders of the ageing and problems of institutional care in Poland

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Summary In modern societies, including that of Poland, a weakening of the family's caring functions is observed, while simultaneously the demographic process of ageing in these societies intensifies. Being able to provide proper care for the elderly is one of the most significant challenges of ageing societies, necessary to minimise the risk of neglect and self-neglect in this population. In response to the growing needs of society, traditional informal care is being replaced by care of a formal nature, in the form of inpatient institutional care, among others. At the end of 2021, there were 2015 inpatient social care institutions in Poland, 164 more than in 2020. The largest group of residents in stationary social care institutions were those aged 65 and over, i.e., more than half of all residents. In the group of residents of social care facilities for the elderly, one of the most common syndromes affecting cognitive function is dementia, including dementia of the Alzheimer's type, vascular dementia, and dementia in the course of Parkinson's disease. In addition, Mild Cognitive Impairment (MCI) is also found in this group. Many residents of 24-hour care facilities, who constitute the elderly population, are diagnosed with multimorbidity. In addition, a significant proportion of the disease entities diagnosed in this population are categorised as Geriatric Giants. Disease entities affecting the level of physical activity of elderly residents of 24-hour care facilities include Parkinson's disease, depression, and various types of dementia.

Key words: nursing homes, self-neglect, elder abuse, dementia, Parkinson Disease, depression.

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Background

The number of elderly people in the world is now greater than ever before. The United Nations Population Division predicts that by 2050, the number of people over 60 years old will increase from the current 901 million to 2.1 billion [1].

The increasing ageing of the population is also observed in Poland. The Polish Central Statistical Office published a report in 2022 that shows that at the end of 2021, the number of people over 60 years of age in our country was 9.7 million, an increase of 0.2% from the previous year. The percentage of elderly people in the country's population reached 25.7%. According to a forecast by the CSO, the number of people aged over 60 in Poland is expected to increase to 10.8 million in 2030 and to reach 13.7 million in 2050. Older people will then account for approximately 40% of Poland's total population [2].

In modern societies and in Polish society as well, a weakening of the family's caring functions is observed. This fact is a direct result of changes in the size and structure of the average Polish family. The tendency to have few children or no children at all which has persisted for many years, along with the process of the demographic ageing of societies, often leads to a situation in which more than one elderly family member requires care at the same time [3]. The loneliness of senior citizens combined with poverty often leads to a lack of satisfaction of their basic needs, and even to tragedies [4]. The observed phenomenon of life extension does not necessarily mean a longer healthy life, and there will be an increasing number of elderly people suffering from multiple co-existing, acute and especially chronic conditions, which are therefore difficult to diagnose and treat [5], and who will experience resulting functional limitations [6]

and require healthcare [7] and long-term care [8] because of them. This is of particular concern in the context of the formulation of health policy, given the existing shortage of medical staff as exposed by the COVID-19 pandemic [9], and the fact that the number of elderly people requiring treatment is increasing while the cost of treatment is significantly higher for elderly people than for other age groups, and to date this is not adequately reflected in the level of funding for health services [10]. Also, the still weak measures of health promotion and disease prevention [11], despite the efforts of both the medical and political communities [12], are not popular with the public [13], although they have the potential to significantly reduce the cost of healthcare and increase the availability of services for older patients [14]. There are hopes for the introduction of modern IT solutions in medicine [15], however this is hindered by the lack of cooperation from seniors due to the low level of IT competence of people in older age groups [16].

In response to the needs of society, traditional informal care is gradually being replaced by care of a formal nature [17], organised by public and private institutions [18]. Formal long-term care can be provided as institutional care – stationary, home-based or community-based. Stationary institutional care is professional care in care facilities outside the patient's home [19].

In Poland, the long-term care sector is underdeveloped, despite the large number of institutions performing care tasks. However, changes in the age structure of the population in the coming decades will significantly affect the national demand for an institutional form of care [18–20].

At the end of 2021, there were 2015 residential care institutions in Poland, 164 more than in 2020. Among them, there were 897 social welfare homes and 556 establishments provid-



ing 24-hour care for the elderly or people with disabilities or chronic illnesses, run as part of business or statutory activities (a total of 98 870 places) [2]. The largest group of residents in residential care facilities were those aged 65 and over, i.e., more than half of all residents [21].

The increase in demand for care services in institutional form, among others, prompts analysis and research into the social security and health status of residents living in residential care facilities.

Objectives

The aim of this study was to present the phenomena of neglect and self-neglect determining the inclusion of the elderly in an institutional form of care and to discuss the most frequent disease entities affecting the state of cognitive functions and/or functional capacity of residents of care facilities for the elderly patients.

Material and methods

Based on the literature analysis conducted via a search of electronic databases such as PubMed and Scopus, and the literature analysis based on publications on geriatrics available on the Polish book market, 30 works were selected for review.

The selection of the disease entities presented in this study is supported by statistical data obtained from the articles available in the databases, and also based on own observations made in a group of residents living in *Park Seniora* in Sosnowka, a 24-hour care facility designed for 32 elderly residents.

Neglect and self-neglect of residents in care facilities

The ability to provide adequate care for the elderly is one of the most significant challenges of ageing societies [22]. The weakening of the family's caring functions is one of the effects of the changes occurring in contemporary Polish society [3], according to the analyses in the context of research on the phenomenon of neglect and self-neglect of the elderly.

Self-neglect is addressed multidimensionally by many researchers as a symptom of cognitive dysfunction, functional impairment, co-occurring distress, and lack of social support [23]. Cognitive dysfunction and functional impairment, together with a lack of appropriate support from caregivers, lead to behaviours that threaten the life and safety of the older person [24]. It has been shown that people with signs of self-neglect more often receive medical care at primary care clinics, more often require emergency room intervention and are more likely to be hospitalised [23].

Neglect is considered to be the refusal or lack of success in fulfilling any duty towards an older person. This duty includes the caregiver providing the elderly person with the necessities of life, such as food, water, personal hygiene products, medication, etc. [24]. The phenomenon of neglect in the elderly should be analysed first and foremost from the perspective of the caring function of the family, due to the fact that currently the most important challenge in ageing societies is to provide proper care for people in this age group. Indeed, it is the family carer who takes on the main burden of responsibility for the life of an older person with a disability [25, 26]. In the absence of caregiver support from social institutions or in the absence of caregiver capacity, there is a danger of intentional or unintentional neglect of the elderly person [23].

As the life expectancy of the elderly person with disabilities increases, family members caring for the patient are forced to accept the need to continue caring for the senior even for many years. Carrying out caregiving duties for a long period of time,

in turn, entails the risk of physical and psychological exhaustion for the caregiver – in this situation, the threat of neglect of the senior often results in his or her institutionalisation [25–27].

Cognitive status of residents in care facilities

Dementia, as a syndrome involving cognitive impairment as well as non-cognitive disorders such as conduct disorders, mood disorders or psychotic disorders, is one of the common syndromes among residents of care facilities for the elderly [28, 29]. Dementia is also one of the main causes of disability and mortality among the elderly. In this population group, the most common cause of dementia is Alzheimer's disease [30].

Another common syndrome presenting among residents and involving cognitive impairment is a clinical condition called Mild Cognitive Impairment, which encompasses impairment of cognitive function, most commonly memory, but not of the same severity as in dementia [31].

Mild cognitive impairment

Mild cognitive impairment (MCI) is an intermediate stage between normal ageing and dementia. In contrast to dementia, despite the cognitive dysfunction present, people with MCI are not significantly limited in activities of daily living [32].

Many epidemiological studies have shown that patients with MCI have a significantly higher risk of developing dementia than the population without MCI. The annual rate of conversion to dementia and Alzheimer's disease is approximately 7%, and the annual rate of conversion to vascular dementia is 2% [33].

Alzheimer's dementia

Alzheimer's disease (AD) is the most common cause of dementia worldwide [32]. The prevalence is clearly age-dependent with an incidence rate of 300:100 000 among people age 60 to 69 and increases significantly with age. From the age of 80, Alzheimer's disease affects around 10% of the population, and among people age 90 and older, it is estimated to be as high as approximately 40%.

The cause of neuronal atrophy in people with Alzheimer's disease, and thus of the worsening of the function of the neurons, is the accumulation of two proteins in the brain: β -amyloid and tau protein. The process of accumulation of both proteins can take many years before the number of neurons decreases enough for the first clinical symptoms to occur. A second cause of neuronal death in the elderly is concomitant cerebrovascular insufficiency. Vascular disorders cause direct neuronal damage while stimulating the process of Alzheimer-type degeneration [30, 34, 35].

Dementia of the Alzheimer type is a cortical dementia, commonly presenting with episodic memory impairment, reduced semantic memory fluency and orientation impairment. Often the main symptoms are accompanied by visuospatial disorders, apraxia and speech disorders [32, 36].

Unlike other forms of dementia, the ability to walk, psychomotor abilities, and continence persist over a long period of time. In typical Alzheimer's dementia, the visual system usually remains intact [32].

In Alzheimer's disease, there is no causal treatment; only symptomatic treatment is used. Non-pharmacological management consists of memory training in the initial phase of the disease, as well as training in daily functioning. Educational measures and support for the patient's carer are of great importance [37].

Vascular dementia

Vascular dementia (VaD) is the second most common cause of dementia, after Alzheimer's dementia, with precise epidemiological data impossible to estimate due to the lack of clear distinction given the mixed pathology that is often present. It

is estimated that up to 30% of post-stroke patients show long-term cognitive impairment [32]. Risk factors for the development of VaD include primarily age and low educational level, which translates into lower cognitive reserve, but also leading an unhygienic lifestyle and having a greater exposure to vascular risk factors such as untreated hypertension, hyperlipidaemia, diabetes, alcoholism or nicotine use [30]. The ICD-10 classification distinguishes, depending on the location of the ischaemic focus and the clinical course, the following forms of VaD:

1. Vascular dementia of acute onset;
2. Multi-infarct dementia;
3. Subcortical vascular dementia;
4. Mixed cortical and subcortical vascular dementia;
5. Other vascular dementia;
6. Vascular dementia, unspecified [38].

In practice, the clinical diagnosis of vascular dementia is based on the finding of symptoms of dementia and confirming vascular brain damage by means of neuroimaging. The Hachinski Ischaemic Score (HIS) scale is helpful for this purpose [30].

Symptom	Points
Abrupt onset	2
Stepwise deterioration	1
Fluctuating course	2
Nocturnal confusion	1
Preservation of personality	1
Depression	1
Somatic complaints	1
Emotional incontinence	1
History of hypertension	1
History of stroke	2
Associated atherosclerosis	1
Focal neurologic symptoms	2
Focal neurologic signs	2
Diagnosis: AD ≤ 4, VaD ≥ 7	Maximum: 18 points

Parkinson's disease dementia

The diagnosis of Parkinson's disease (PD) is based on the presence of axial motor symptoms, i.e., bradykinesia, rigidity, postural disturbances and tremor. Confirmation of the diagnosis is provided by a short-term as well as long-term response to dopaminergic treatment. The onset of motor symptoms in Parkinson's disease may be preceded by extra-motor symptoms, which during the course of the disease often become one of the main causes of the patient's incapacity and discomfort. The prevalence of extra-motor symptoms in PD ranges from 21% at diagnosis to as high as 88% after seven years of disease. One of the most common extra-motor symptoms of Parkinson's disease, along with apathy and depression, is dementia [39].

Chronic diseases limiting physical activity in residents of care facilities

Many of the illnesses that occur in the elderly population living in care facilities are categorised as Geriatric Giants, described as mainly chronic disabilities specific to seniors that affect the physical, mental and social aspects of older people's lives. Geriatric Giants include frailty syndrome, faecal incontinence, depression, cataracts, macular degeneration, glaucoma, hearing impairment, dementia, delirium, iatrogenic geriatric syndrome or malnutrition, among others [37].

For the purpose of this study, Parkinson's disease, depression and dementia were presented as diseases that determine the daily life functioning of residents of 24-hour care facilities.

Parkinson's disease

Parkinson's disease is one of the most common neurodegenerative conditions, with onset in later life, although it can also start in young people. Approximately 1 million people worldwide suffer from Parkinson's disease. Additionally, studies indicate that in 5% of patients, the diagnosis is established before the age of 50 years and in 30% before the age of 65 years [40].

The diagnosis of Parkinson's disease is clinical and based on diagnostic criteria that are widely acknowledged nowadays. These criteria include axial symptoms of the disease, exclusion criteria and supportive symptoms. In a simplified manner, the symptoms of Parkinson's disease are shown in Tables 2 and 3 [41].

Table 2. Parkinson's disease diagnostic criteria [41]

Parkinson's disease diagnostic criteria
Main symptoms (AXIAL)
Bradykinesia and at least one of the following:
Rest tremor
Muscular rigidity
Postural instability (unrelated to primary visual, cerebellar, vestibular or proprioceptive dysfunction)
Exclusion criteria
Repeated strokes
Repeated serious head injury
Definite encephalitis
Use of neuroleptic agents
Normotensive hydrocephalus
Cerebral tumour
Early-onset dementia
Eye movement disorders
Cerebellar signs
Babinski sign
Supportive symptoms
Unilateral onset
Rest tremor
Good response to dopaminergic drugs
Maintenance of good response for at least 5 years
Levodopa-induced dyskinesia

Table 3. Parkinson's disease characteristic symptoms [41]

Parkinson's disease characteristic symptoms
Hypomimic face, no facial expression
Stooped posture
Shuffling, short-stepped gait
Rest tremor, unilateral
Reduced arm swing
Reduced volume of speech, monotone pitch

Dementia

According to the current ICD-10 International Classification of Diseases and Related Health Problems, dementia is a syndrome resulting from chronic or progressive brain disease with impairment of many higher cortical functions such as thinking, memory, orientation, counting, reasoning, learning, judgement or language functions. These symptoms must be present for a minimum of six months to make a definite diagnosis possible. Consciousness in dementia is not impaired. Cognitive disturbances are usually accompanied by changes in emotional control, motivation and social behaviour [32].

According to the International Statistical Classification of Diseases and Health Related Problems 10th Revision (ICD-10), the following criteria are necessary for the diagnosis of dementia:

1. The presence of impaired memory and impaired other cognitive functions (judgement, thinking, planning, organising, general information processing) that have deteriorated from their previous higher level, in both cases to an extent that impairs functioning in daily life. The existence of these impairments was documented in a reliable interview from those in the patient's immediate environment and, where possible, in the results of the neuropsychological examination.
2. Preserved 'awareness of surroundings', i.e., no obtundation, at least for the time necessary to establish cognitive impairment; 'In case of a build-up of episodes of disturbance of consciousness, the diagnosis of dementia should be postponed'.
3. A reduction in emotional control over motivation or a change in social behaviour manifested by one or more of the following symptoms: emotional instability, irritability, apathy, primitivisation of social behaviour.
4. Occurrence of memory and other cognitive dysfunction for at least 6 months [42].

Depression

Depression is a mental disorder characterised by a set of symptoms that persist for at least 2 weeks:

- lowered mood – sadness, despondency, low self-esteem, low self-confidence, feelings of guilt, pessimism, in some patients suicidal thoughts,

- inability to experience pleasure,
- psychomotor retardation,
- circadian rhythm disturbances – insomnia, excessive sleepiness, premature awakening,
- decreased appetite (rarely increased appetite).

Depression is one of the great geriatric problems, as its prevalence among people over 60 is estimated to be 15–20%, and up to 30% among older people receiving medical care [43], and it causes a significant reduction in quality of life for seniors [44].

Depression and dementia are among the most common diseases of old age, and their prevalence increases with age. In clinical practice, dementia and depression co-occur in the elderly population. The interaction of the two diseases is complex:

1. Depression may co-occur with dementia.
2. Depression may be a reaction to dementia.
3. Depressive symptoms may be predictors of dementia.
4. Depression may be associated with cognitive impairment that is difficult to distinguish from dementia.
5. Depression is an independent factor for dementia [32].

Conclusions

The phenomenon of demographic ageing raises the question of the feasibility of informal family carers to meet the demand for care. The need for forms of institutional support in caring for the elderly prompts more research into the profile of people living in permanent residential care facilities, in order to best understand the needs of these patients and thus provide the highest possible level of care services for them.

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