

DISEASES OF THE NERVOUS SYSTEM AS A CAUSE OF DISABILITY

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ABSTRACT

Disability, in most cases, is caused by the devastation of the body by a chronic disease or cancer. Therefore, the aspect of prevention is extremely important, which we can only apply with knowledge of the most common diseases leading to disability. It is clear that the number of patients suffering from diseases of the nervous systems is increasing with age. Specifically, we can highlight severe strokes with evident neurological deficits, tumors of the central nervous system, encephalopathies, peripheral nerve damage, neurologic inflammatory diseases, epilepsy, back pain as the most common diseases in the nervous system. Patients affected by these conditions have various levels of disability, which also largely depends on the severity of the diseases at the time of diagnosis.

The main objective of the study was to find what is the incidence of disability certificate issuing due to neurological diseases in Lublin.

Material and methods

Data was obtained through query to the Municipal Disability Assessment Centre in Lublin for the period 2006-2021.

Results

The highest number of disability certificates due to neurological diseases, as many as 966, was issued in Lublin in 2015. Disability certificates of a moderate degree prevailed. The most numerous group of beneficiaries were people aged 41-60. In the period under study, such a certificate was received mostly by women. Persons with secondary education predominated. The overwhelming majority of these persons were not professionally employed. Analyzing the reasons for issuing disability certificates, the most frequent were diseases of the locomotor system, second were circulatory and respiratory system diseases and third were neurological diseases.

Conclusions

Diseases of the nervous system are the 3rd most common cause of issuing disability certificates in Lublin from 2006-2021. The recipients were mainly middle-aged women with a secondary education. The problem is getting more and more common, therefore the prevention is crucial to decrease the number of patients with disability due to the diseases of the nervous system.

Keywords: disability, disability certificates, neurological diseases, neurodegenerative diseases.

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INTRODUCTION

According to the European Disability Forum of the European Parliament, individuals with disabilities are people who have equal rights but face challenges due to environmental, economic, and social barriers that hinder them from fully participating in society like others [1,2]. The World Health Organization (WHO) defines disability as encompassing both physical and psychological aspects, as outlined in the International Classification of Disability. This classification includes conditions of impairment, activity limitations, and restrictions in social participation, influenced by personal and environmental factors [3].

Therefore, prevention plays a crucial role, which can only be effectively implemented when we understand the most common conditions that lead to disability. It's evident that the number of individuals affected by nervous system disorders increases with age. Some of the most prevalent neurological conditions include severe strokes with noticeable neurological deficits, central nervous system tumors, encephalopathies, peripheral nerve damage, inflammatory neurological diseases, epilepsy, and back pain. It is imperative not to overlook the existence of neurodegenerative diseases, including Alzheimer's disease, Parkinson's disease, frontotemporal dementia, and dementia with Lewy bodies. Alzheimer's disease represents the most common (50-60%) cause of dementia in individuals aged 65 and above. As evidenced by a multitude of epidemiological studies, over 5% of individuals in this age group are afflicted with Alzheimer's disease in Europe[4]. These debilitating conditions are characterized by the progressive degeneration and death of neurons, particularly those in the cerebral cortex. Consequently, they can result in not only mental but also physical disability[5]. These conditions result in varying degrees of disability, with the

level of impairment largely depending on how advanced the disease is at the time of diagnosis.

AIM

The aim of the study was to investigate the characteristics of 16+ population about age, sex, education and employment status, which obtaining disability certificates due to neurological diseases in Lublin within the last 16 years.

MATERIAL AND METHODS

The data was obtained through a query at the Municipal Disability Adjudication Council in Lublin. We obtained anonymized data from years 2006-2021 referring to 16+ population.

RESULTS

In the years 2006-2021 Municipal Disability Adjudication Council in Lublin issued 76,581 disability certificates for people over 16 years of age. Out of this number, 10,109 (13%) certificates were issued due to neurological diseases. They were in the third position among causes of disability after musculoskeletal diseases, cardiovascular and pulmonary diseases. In the years 2006-2021, among recipients of disability certificates due to neurological diseases, 27% had light disability, 38% moderate and 35% severe (Figure 1). The majority of patients receiving disability certificates due to neurological diseases were >60 years of age (Figure 2). They were mainly women (Figure 3). In the majority of cases, they had secondary education (Figure 4). Through the years 2006-2021, unemployed people predominated among the ones receiving the certificate (Figure 5).

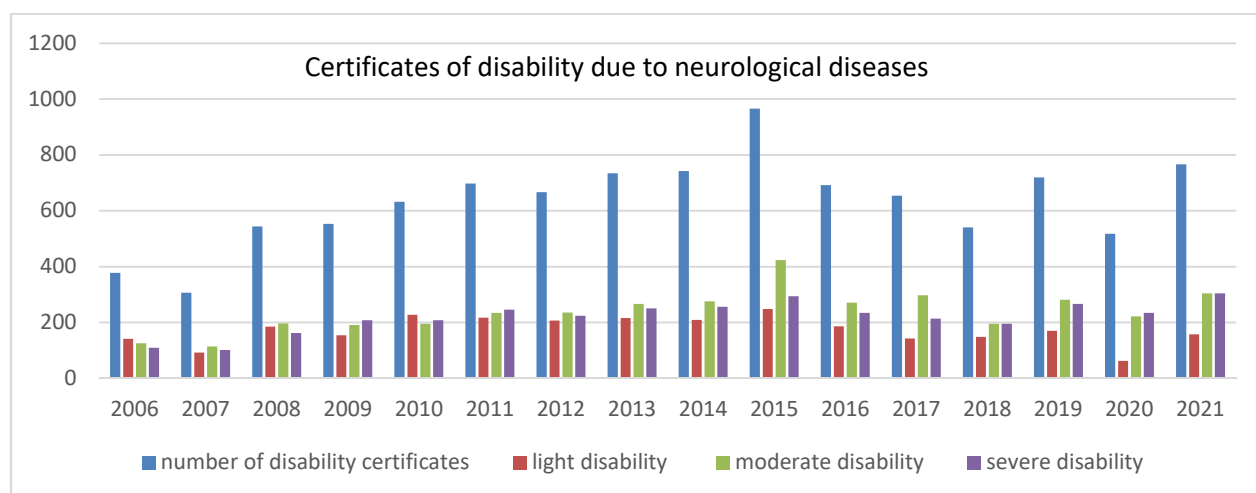


Fig. 1 Classification of the certificates issued due to neurological diseases according to disease severity.

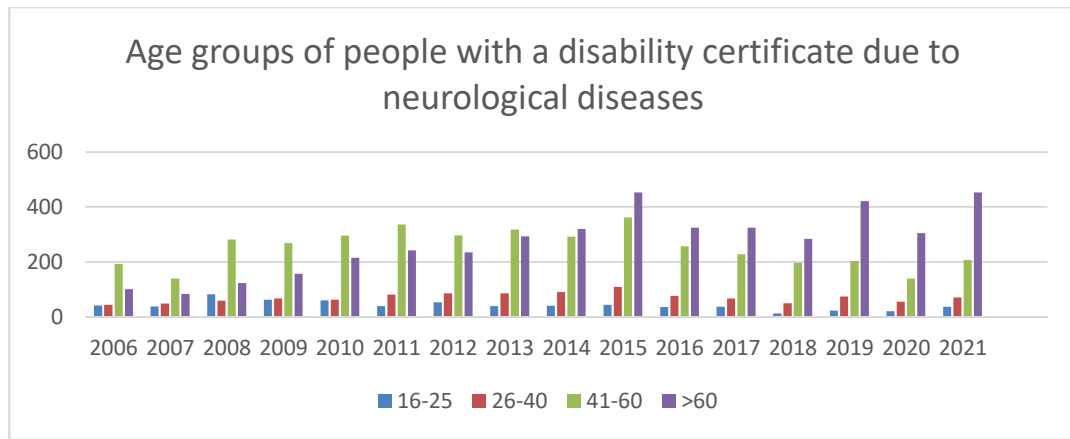


Fig. 2 Classification of disability certificate recipients due to neurological diseases according to their age.

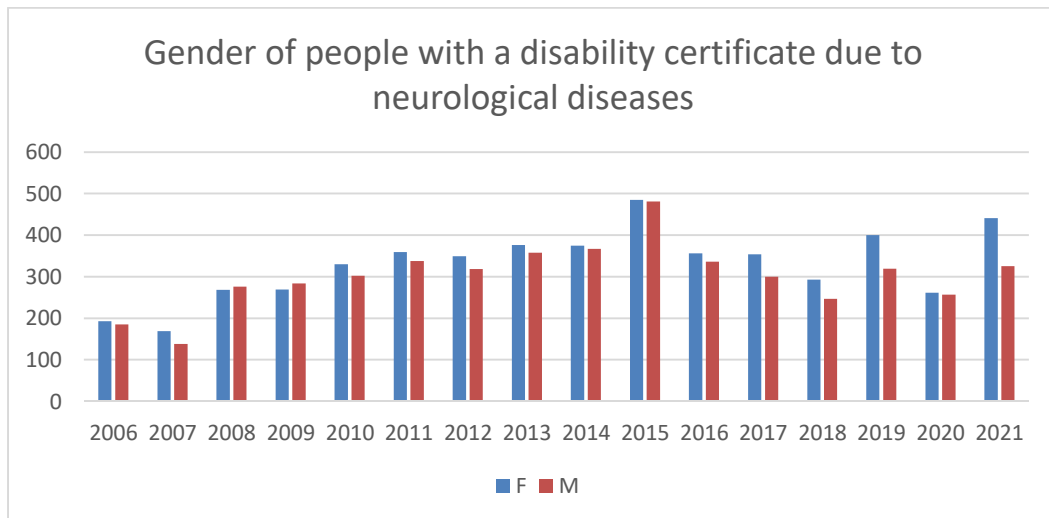


Fig. 3 Classification of disability certificate recipients due to neurological diseases according to their gender.

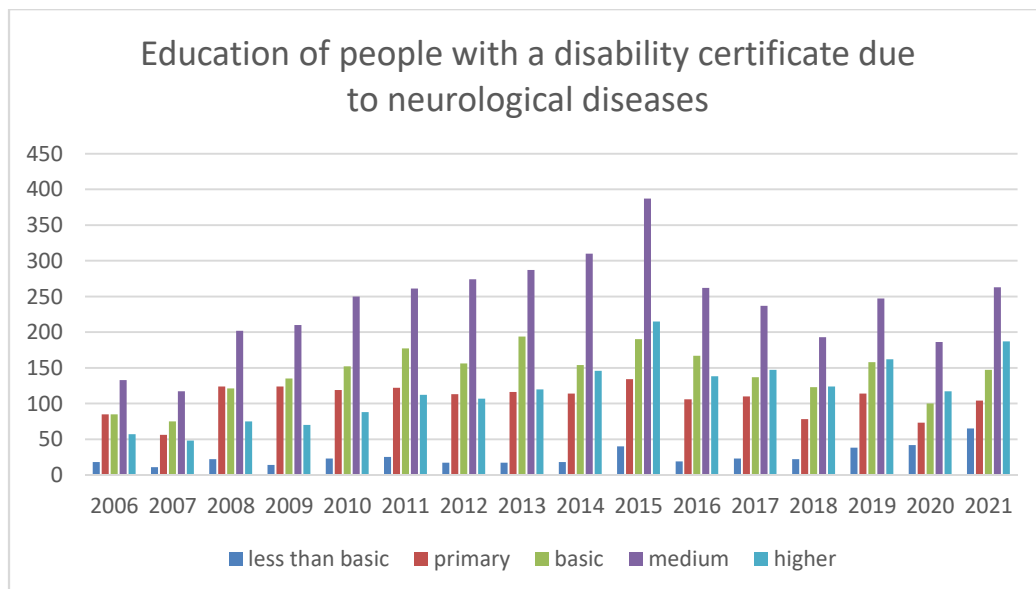


Fig. 4 Classification of disability certificate recipients due to neurological diseases according to their education.

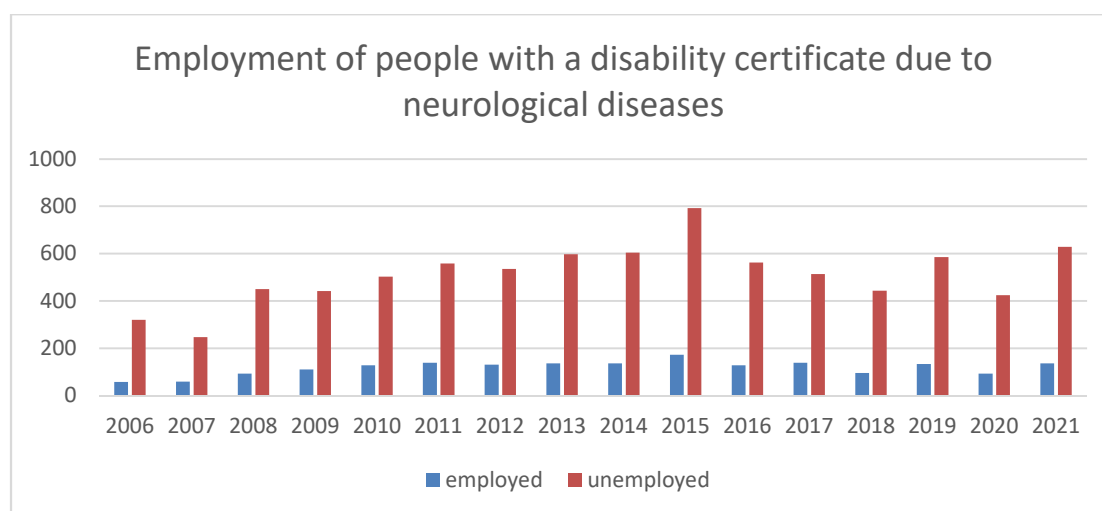


Fig. 5 Classification of disability certificate recipients due to neurological diseases according to their employment status.

DISCUSSION

It is estimated that 15% of adults live with disability. In 2006, the World Health Organization (WHO) recognized neurological disorders as one of the most significant public health challenges, contributing to 6.3% of the total disability-adjusted life years (DALYs). A report from the Global Burden of Disease (GBD) 2015 Neurological Disorders Collaborator Group later revealed that neurological disorders had become a leading cause of disability worldwide, accounting for 11.6% of DALYs. In terms of mortality, they ranked second only to cardiovascular diseases, responsible for 16.5% of all deaths globally [6]. People with neurological disabilities face a range of difficulties that can include both physical and psychological aspects of daily life. Neurological disorders such as multiple sclerosis, Parkinson's disease, strokes, cerebral palsy or spinal cord injuries affect different areas of functioning. Stroke is a leading cause of disability in adults both nationally and globally, with nearly equal numbers of individuals experiencing right or left hemiplegia. What is particularly worrying is that, despite the high incidence of stroke, there are currently no established guidelines for evaluating speech and language impairments, such as aphasia, in stroke survivors [7]. A systematic analysis from the Global Burden of Disease study in 2017 found that the three neurological disorders causing the greatest burden in the U.S., based on disability-adjusted life years (DALYs), were stroke, Alzheimer's disease and other dementias, and migraine. These conditions are significant contributors to long-term disability and health challenges due to their high prevalence and the extensive care they require. This aligns with similar findings in other high-income countries where these disorders are also leading causes of neurological disability [8]. One of the most common difficulties resulting from neurological damage is movement disorders. These may include partial or total paralysis (e.g. following stroke or spinal cord injury), muscle tremor (as in Parkinson's disease), spasticity (i.e. excessive muscle tension), balance and coordination problems (characteristic of ataxia, for example), reduced muscle strength. These difficulties often require the use of assistive equipment (canes, wheelchairs, walkers) and lead to reduced independence. Neurological disorders can affect the ability to speak, write and understand language. Some people may develop aphasia (impairment of the

ability to formulate and understand speech), leading to social isolation and making it difficult to communicate with the outside world. Speech problems often accompany people after strokes or with degenerative diseases. Neurological causes of disability can lead to problems with memory (e.g. in Alzheimer's disease), concentration, decision-making, orientation in space. This makes it difficult to function on a day-to-day basis, both in terms of work and in normal household duties, such as shopping, managing finances or planning activities. Neurological diseases often lead to emotional disturbances. Depression, caused by physical limitations and difficulties in adapting to a new reality, anxiety, especially related to the progression of the disease and the loss of autonomy, personality changes that may result from brain damage, may occur. These problems are often underestimated by those around them, leading to feelings of loneliness and exclusion. In the studies carried out, it can be seen that the number of women with a disability certificate due to neurological diseases is slightly higher. By contrast, in analysis for the Global Burden of Disease Study 2017 the total number of DALYs was higher in women (12 million) than in men (9.1 million) [6]. In this study, people with a secondary education predominated among those with a disability certificate due to neurological diseases. In recent years, a significant increase of these people can also be seen among those with tertiary education, however, this may be related to the general increase in the number of people with tertiary education in society. Unfortunately, among people with a disability certificate due to neurological diseases, the vast majority in our study are not employed. This has not changed significantly in recent years although a slight decrease in the size of the non-employed group can be observed.

A key factor in social inclusion is the economic independence of people with disabilities and the removal of barriers that prevent them from fulfilling independent or supported employment roles in line with their abilities and qualifications. Vocational counselling services are an important part of the process of vocational rehabilitation of people with disabilities, as they initiate measures to support the employment of people with disabilities, and the subsequent employment process may depend on their availability and quality. Vocational rehabilitation as a form of assistance in solving vocational problems of persons with impairments is mentioned in international

documents. Vocational counselling including assessment of work ability and selection of a suitable profession learned in the education and training process is the initial stage of the vocational rehabilitation process [9]. The situation of people with disabilities on the labor market is not simple. First of all, they have to face the numerous stereotypes that apply to them, as well as the high demands that employers have. An analysis of the results of research defining the situation of people with disabilities indicates a strong need for their socio-occupational activation. Undoubtedly, the 'closure' of disabled people to the labor market is the main reason why this group of people remains unemployed. In order to overcome this barrier, it is not enough to provide training or even to find a job, as it can be concluded that, apart from health issues, the main obstacle in finding a job are mental conditions. People with disabilities with higher education have the greatest chance of being employed. Education has a significant impact on a disabled person's position and opportunities on the labor market. Educational attainment differentiates the labor force participation of people with disabilities - there is a correlation: the higher the level of education held by people with disabilities, the higher their labor force participation rate, as well as their employment rate. People with higher and intermediate levels of education have the highest labor force participation rates [10]. Care should be taken to ensure that education is not only provided in a narrow specialization without soft skills training, that it does not pigeonhole people with disabilities, but rather provides a range of opportunities and competencies for lifelong learning and qualification. It is also very important for people with disabilities to be generally motivated to work, to develop pro-active attitudes, both among people with disabilities themselves and among their careers. It is necessary to work towards greater independence for people with disabilities and to counteract the overprotectiveness of families which impairs this independence. However, it should be borne in mind that all activation measures should be embedded in awareness campaigns targeting the whole society: the environment of people with disabilities, employers and the disabled themselves. Above all, the aim of these activities should be to change the image of people with

disabilities as people who, with equal rights and responsibilities, should and can be involved in society, and to change the category of thinking about disability: not as a disease, but as an otherness. Society is diverse and people with disabilities are one part of it. In designing any measures to activate people with disabilities, it is important to bear in mind the specific characteristics of the different groups of people with disabilities, which are largely responsible for their isolation [11]. The analysis carried out to identify factors that are statistically significant for the sense of life satisfaction of people with disabilities who have a mental or physical disability certificate showed that the key factors in this regard are mainly financial, such as possessions and the improvement of the material situation in the last five years. In addition to finances, elements such as integration with healthy people, the adaptation of public institutions to the needs of disabled people and sporting activities also influence the life satisfaction of disabled people. There was also a statistically significant relationship between the sense of life satisfaction and the adaptation of the residential building to the needs of people with reduced mobility and the favorable environment in which people with mental disabilities live [12]. Disability due to neurological causes is associated with multifaceted difficulties that range from physical limitations to psychological and social challenges. Key to improving the quality of life of such people is specialist support, appropriate rehabilitation and understanding and acceptance from society. The number of the people with disability due to neurological diseases will increase substantially in future; hence, there is urgent need to change the possibilities and perspectives for them.

CONCLUSIONS

Neurological diseases have the 3rd position to be the cause of issuing disability certificates in Lublin from the years 2006-2021. The recipients were mainly unemployed women over 60 years old with a moderate severity of the disease and secondary education.

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