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COGNITIVE IMPAIRMENT AND DEMENTIA IN PARKINSON'S DISEASE

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Abstract

Cognitive impairment is one of the most frequent and disabling non-motor manifestations of Parkinson's disease. It significantly reduces patients' quality of life, increases caregiver burden, and contributes to loss of independence. Early identification of cognitive decline is crucial for timely intervention and prevention of dementia progression.

The purpose of the study. To determine the prevalence of cognitive impairment and identify predictors of progression to dementia among patients with Parkinson's disease.

Material and Methods. A total of 106 patients with PD were examined and followed in outpatient clinics in Almaty. The diagnosis of Parkinson's disease was confirmed according to international criteria. Cognitive status was assessed using the Mini-Mental State Examination and Montreal Cognitive Assessment. Disease severity was evaluated using the Hoehn and Yahr scale and the Schwab and England Activities of Daily Living Scale. Demographic and clinical parameters, including age, education level, disease duration, and motor subtype, were analyzed.

Results. Mild cognitive impairment was identified in 26.4 % of patients, dementia in 34.9 %, and no cognitive impairment in 38.7 %. More pronounced cognitive decline was more common among older patients, those with lower educational attainment, disease duration over 10 years, and the akinetic-rigid subtype of Parkinson's disease. Regression analysis revealed the key predictors of dementia: disease onset after age 60, duration exceeding 19 years, low education level, and severe motor deficit.

Conclusion. Cognitive impairment is common among Parkinson's disease patients and tends to progress with disease duration and severity. Early detection and systematic monitoring of cognitive functions are essential for implementing preventive measures, slowing dementia progression, and improving the quality of life of individuals with Parkinson's disease.

Keywords: *Parkinson's disease, mild cognitive impairment, dementia, MMSE, MoCA, cognitive dysfunction, risk factors.*

Introduction

Parkinson's disease (hereinafter – PD) is the most common neurodegenerative disease, second to Alzheimer's disease. PD is characterized by the progression of motor symptoms over time [1].

In recent years, PD has become the fastest-growing neurological disease in the world in terms of prevalence and disability caused by the disease [2].

In 2016, 6.1 million PD cases were reported worldwide, and age-standardized prevalence increased by 21.7 % from 1990 to 2016 [3].

The Global Burden of Disease study revealed 1.02 million PD cases in 2017 [2; 3]. Disability and mortality due to PD are increasing faster than in any other neurological disorder [3; 4].

PD is characterized by motor symptoms, including bradykinesia associated with stiffness and resting tremors, as well as postural instability in later stages. These motor symptoms can also be associated with non-motor manifestations such as dementia, depression, and autonomic dysfunctions [5].

On the one hand, it is widely believed that cognitive dysfunction occurs only in the late stages of PD progression. This is confirmed by studies in which over 80 % of people with PD develop dementia in later stages [6].

On the other hand, in plenty of studies, mild cognitive dysfunction manifested itself in many cases of PD [7]. At the same time, mild cognitive impairments (hereinafter – MCI) are usually present at an early stage of the disease in about 40% of patients with PD [7; 8].

Many studies have shown that patients (over 75 %) with MCI may be at a higher risk of developing dementia compared to patients without cognitive impairments. However, it is currently unknown which patients with MCI are at increased risk of developing dementia [9-11].

According to Fengler S. et al. (2017), MCI in PD is not sufficiently recognized in clinical practice, since the signs may not be noticeable at an early stage of the disease, and many routine assessment tools are not sensitive enough to detect subtle cognitive dysfunction [12].

In the study by Hely et al. (2008), overt dementia occurred in more than 80 % of patients after 20 years of illness [13]. Cognitive function in PD is a combination of symptoms ranging from normal cognitive function to subjective cognitive changes with normal neuropsychological assessment, MCI in PD, and finally dementia [14-16].

During the last decade, increased attention has been paid to the stages of cognitive impairment preceding dementia in individuals with PD, in particular MCI.

Aarsland, D. et al. (2010) suggested that 25.8 % of patients with PD without dementia have MCI [9], while data from other studies have shown that about 20.2 % of patients have MCI at the time of diagnosis, and the number increased to 40-50 % after 5 years of follow-up [17-20]. At the same time, the prevalence of MCI among the elderly population in general (at the age of 60-90 years) ranged from 16 % to 20 % [21; 22].

Pedersen, K.F. et al. (2017) showed that patients with MCI were at an increased risk of subsequent development of dementia during the first 3 years of follow-up compared with patients without cognitive impairments. At the same time, MCI was described as a transitional stage between normal cognitive process and dementia, and it is important to understand the progression from MCI to dementia [17].

The International Society for the Study of Parkinson's Disease and Movement Disorders (MDS) has proposed formal diagnostic criteria for both MCI and dementia in PD [11; 23]

The etiology and pathogenesis of PD, characterized by irreversible progression of the disease, are quite complex, and there is still no consensus, especially regarding cognitive deficits in PD. According to many authors, there is not only a progressive deterioration in the state of dopaminergic neurons, but also defects in non-dopaminergic systems, which can lead to classic motor and non-motor manifestations. PD progresses from a complex interplay of genetic and environmental factors that affect numerous fundamental cellular processes [24-28].

Cognitive impairment and dementia in PD are often associated with a deterioration in daily functioning, a decrease in the quality of life, and poor treatment outcomes. The complexity of PD is accompanied by clinical challenges, including the difficulty in making a definitive diagnosis in the earliest stages of the disease and the challenges in treating symptoms in the later stages. In addition, there are no treatments that slow down the neurodegenerative process [5].

Neuroimaging has provided evidence of reduced cortical volume, increased diffusional white matter changes, and decreased resting metabolic activity, which appear to begin before the onset of dementia in PD patients. Cognitive impairment is associated with deficiencies in multiple neurotransmitters, including dopamine and acetylcholine, indicating widespread neurotransmitter dysfunction in PD-associated dementia. [11; 29; 30]

Anna B. (2005) demonstrates in her work that an early decrease in dopaminergic uptake in the frontal lobes is crucial for cognitive impairment that exists in patients with early PD [27].

We have been studying the problem of PD for over 10 years, including its epidemiological characteristics, clinical and genetic aspects in patients in Kazakhstan [28; 29].

In our previous studies with PD patients, a high prevalence of non-motor dysfunctions (96.2 %) was detected. Additionally, 87.7 % had at least one non-motor visual symptom, and 18.3 % of them exhibited symptoms in the early period, several

months to years before the specified diagnosis of PD [29]. Notably, visuospatial and cognitive non-motor symptoms are often combined in PD, and the rate of progression of non-motor symptoms differs from that of motor symptoms due to their independence [29-32].

According to other authors, the spectrum of cognitive deficits associated with PD varies from subjective cognitive decline to MCI and dementia [33-35].

The concept of MCI was formally proposed in 2012 by the International Society for the Study of Parkinson's and Movement Disorders [11], and since then, it has been shown that about a third of people have MCI at the time of diagnosing PD.

The risk of MCI in PD progressing to dementia varies. Cases of MCI have also been described when they may remain static or even reversible and may not always progress inexorably into dementia [36].

In other cases, MCI in PD represents the prodromal stage of dementia in PD and may create a window to prevent or delay progression to dementia [37].

According to Litvan I. et al. (2012) the diagnosis of MCI in PD is based on the presence in a person of: a diagnosis of PD; gradual cognitive decline reported by the patient or doctor; a decrease in cognitive functions in complex neuropsychological testing or a scale of global cognitive abilities confirmed in PD, and a decrease in cognitive functions insufficient to significantly impair functional independence [11].

The diagnostic criteria for MCI in PD have two levels: Level I involves a brief assessment, and Level II entails a more comprehensive assessment using at least two tests for each of the five cognitive domains (attention, executive function, visuospatial functioning, language, and memory).

The importance of studying cognitive impairment in PD was highlighted when several clinical studies showed that approximately 50 % of patients develop dementia 10 years after the initial diagnosis of PD [38-40].

Thus, in the complex care of people with PD, the recognition of cognitive impairment is important. Clinical features and rate of progression of cognitive impairment in PD may vary throughout the course of the disease, from early to advanced stages.

The purpose of this study was to assess the frequency of cognitive impairment and the rate of its progression to dementia in patients with PD.

Material and Methods

The study retrospectively included 106 patients with PD from a large cohort of outpatients with PD registered at Almaty polyclinics. All patients gave informed written consent prior to inclusion in the study. The diagnosis of PD was established based on generally accepted criteria in accordance with the International Classification of Diseases (ICD-10, WHO, 1992), as determined by the results of a clinical examination and data from additional research methods. The work was guided by the diagnostic criteria of the international neurological community, as outlined by the Parkinson's Disease Society Brain Bank.

As part of the research «Cognitive impairment in PD: prognostic significance and clinical predictors», a review was conducted by the Local Commission on Bioethics of the Asfendiyarov Kazakh National Medical University (Protocol No. 39-150424 dated April 26, 2024). The study protocol was approved without any remarks (the decision was unanimous).

The study has identified the main demographic and clinical characteristics, including the study period, age of disease onset, disease duration, education, family history of PD, and response to levodopa. A unified PD rating scale (hereinafter – UPDRS) was used to objectively assess the degree of motor severity and the disease stage. The motor phenotype was determined according to a new version of this method described by Jankovic et al. (2008).

Disease severity and stages were assessed using the modified Hoehn and Yahr scale, an international criterion for evaluating the severity of functional movement disorders in PD. According to this scale, five stages of the disease are distinguished, from stage I with unilateral symptoms (hemiparkinsonism) to stage V, in which the patient is bedridden (uses a wheelchair).

The Schwab and England Daily Life Activity Scale was used in the study, which rates patients' disability on a scale of 0 to 100 %. A score of 0 refers to a bedridden patient with impaired autonomic functions (such as swallowing, bladder, and bowel function); a score of 100 % refers to a completely independent patient, able

to manage their daily activities without difficulty or disturbance.

In our previous studies [29; 32], we used global cognitive tests and additional data to assess MCI and neuropsychological tests for Levels I and II dementia.

Patients' cognitive status and ability to perform daily functions were assessed using the MMSE and MoCA.

The MMSE includes questions that assess spatial and temporal orientation, perception, memory, recognition, attention span, speech function, naming, and visuospatial skills. The total score on the scale is a maximum of 30 points. 25-30 points correspond to non-demented cognitive disorders or norm; 24 points or less – dementia (20-24 points – mild dementia; 11-19 points – moderate dementia). Given that patients had severe motor and non-motor symptoms, patients with an MMSE mental state score of less than 10 points (severe dementia) were excluded from the study (severe dementia).

The MoCa includes questions that assess visuospatial and executive function, object naming, memory, attention, abstraction, speech, and orientation. The MoCA test typically took about 10-15 minutes. The maximum possible score was 30; 26 points or more were considered normal; 25 points or less indicated a cognitive impairment.

The *statistical analysis* was performed using the SPSS software package version 27.0, with independent two-tailed t-tests for group comparisons. Logistic regression models were applied to determine correlations between cognitive impairment variables and disease severity scores.

Values were expressed as means and standard deviations. Statistical significance was set at $p < 0.05$.

Results

The study included 106 PD patients with varying degrees of cognitive status. Clinical and demographic characteristics were analyzed, including age, gender, education, baseline and severity of PD, the form of the disease course, disease duration, rate of progression, as well as MMSE or MoCA scores.

This study included 42 (39.62 %) men and 64 (60.38 %) women. We observed no gender differences among patients with PD.

The age of the patients ranged from 40 to 90 years, with a mean age of 69.7 ± 0.73 years.

The obtained results of PD frequency ratio indicators in women and men indicate that, in the age group between 60 and 74 years old, as well as among patients between 75 and 90 years old, the disease is significantly more often observed among women (Figure 1). No-

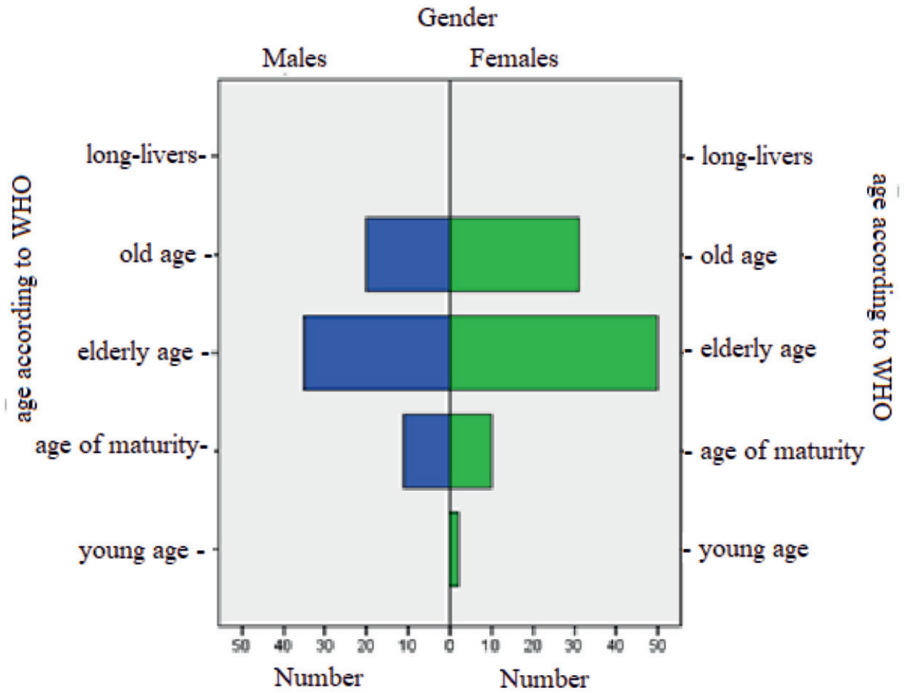

Figure 1. A Pareto Chart: Characteristics of patients with PD by age and sex
Source: completed by authors

tably, one woman was diagnosed before the age of 44.

The clinically manifested triad of cardinal motor symptoms, including stiffness, bradykinesia, and tremor, underlies one or another phenotypic variant of PD progression. In 55.6 % (59) of our patients, the primary complaints were associated with rigidity and bradykinesia, corresponding to the akinetic-rigid form. Patients with the so-called tremor-dominant form comprised 23.2 % (n = 25), and 20.7 % (n = 22) patients had a mixed form (Figure 2).

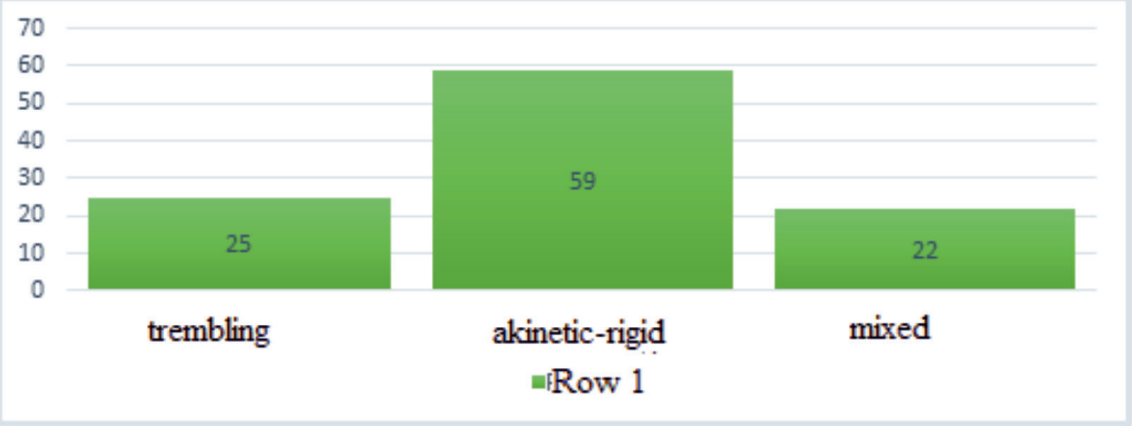

Figure 2. Characteristics of PD patients with phenotypic variants
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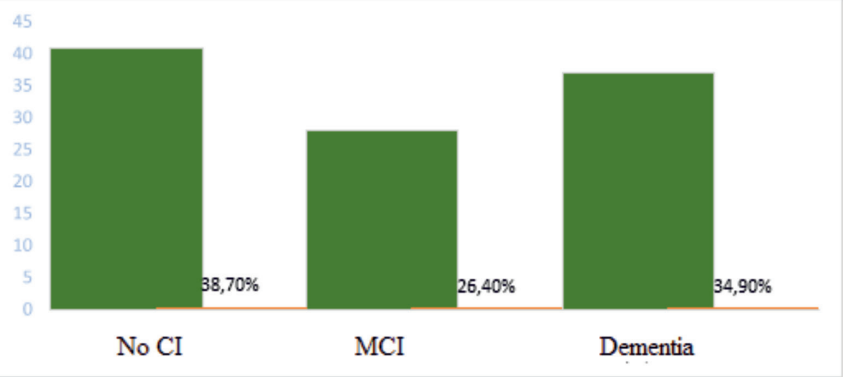

Figure 3. Characteristics of the cognitive status of PD patients
Source: completed by authors

The cognitive status of patients, as assessed by a global cognitive test (MMSE or MoCA), revealed that MCI was detected in 26.4 % of cases, dementia in 34.9 %, and cognitive dysfunction was not detected in 38.7 % of patients (Figure 3).

The comparative characteristics of patients with PD in the observed groups of the study population are presented in Table 1.

Table 1. Comparative characteristics of patients with PD in the study groups

	No cognitive impairment, abs. (%)	MCI, abs. (%)	Dementia, abs. (%)	Total patients, abs. (%)	p value
Total	41 (38.7 %)	28 (26.4 %)	37 (34.9 %)	106 (100 %)	
men	19 (17.9 %)	14 (13.2 %)	9 (8.49 %)	42 (39.62 %)	
women	22(20.75 %)	14 (13.2 %)	28 (26.41 %)	64 (60.38 %)	
Age at examination	58.3 ± 0.5	69.4 ± 0.1	82.7 ± 0.6		<0.001*
Avg. age at onset of disease, women men	 53,1 ± 1,2 57.2 ±1.5	 59.7 ± 0.6 61.2 ± 1.5	 60.1 ± 2.6 63.2 ± 1.5		

Average duration of the disease	13,0 ± 1,2	19.0 ± 0.7	25.0 ± 1.4		<0.001*
Higher education (15 or more years of study)	36 (33.96 %)	17 (16.04 %)	12 (11.32 %)	65 (61.3 %)	<0.001*
Secondary special (12-13 years of study)	2 (1.89 %)	1 (0.94 %)	7 (6.64 %)	10 (9.4 %)	
Secondary (10 years or less)	3 (2.83 %)	10 (9.43 %)	18 (16.98 %)	31 (29.2)	<0.001*
CI duration of BP					
Up to 10 years	25 (23.58 %)	5 (4.72 %)	2 (1.88 %)	32 (30.1 %)	<0.001*
Over 10 years	6 (5.66 %)	23 (21.69 %)	34 (32.07 %)	63 (59.4 %)	<0.001*
unknown	10 (9.43 %)	-	1 (0.94 %)	11 (10. %)	
Hoehn Yahr					
Stage 1	10 (9.4 %)	-	-	10 (9.4 %)	
Stage 1.5	2 (1.8 %)	1 (0.94 %)	-	3 (2.8 %)	
Stage 2	22(20.75 %)	3 (2.83 %)	-	25 (23.6 %)	<0.001*
Stage 2.5	6(5.66 %)	2 (1.8%)	-	8 (7.5 %)	<0.001*
Stage 3	1(0.94 %)	17 (16.04 %)	26 (24.53 %)	44 (41.5 %)	<0.001*
Stage 4	-	5 (4.72 %)	9 (8.49 %)	14 (13.2 %)	<0.001*
Stage 5	-	-	2 (1.8%)	2 (1.8%)	
Schwab and England scale	89.0 %	55.35 %	38.37 %		<0.001*
MMSE	28,9 ± 1,2	24.1 ± 0.9	20.1 ± 2.1		
MoCa	27,4 ± 2,6	24.7 ± 1.3	19.5 ± 2.1		

Source: completed by authors

The duration of PD averaged 15.0 ± 0.7 years, with 14.5 ± 0.6 years in women and 16.2 ± 0.4 years in men, showing no significant difference ($p > 0.05$).

More severe cases were statistically significantly more common ($p < 0.001$) in the age-correlated akinetic-rigid syndrome group (Figure 4). We found that older age was associated with more severe motor and non-motor (including visual and cognitive impairment) manifestations. At the same time, the severity of movement disorders was higher in the oldest age subgroup (75-90 years old) compared to younger subgroups (50-74 years old). The number of patients with the akinetic-rigid form was higher in the older age group (70 years and older) compared to the younger subgroups.

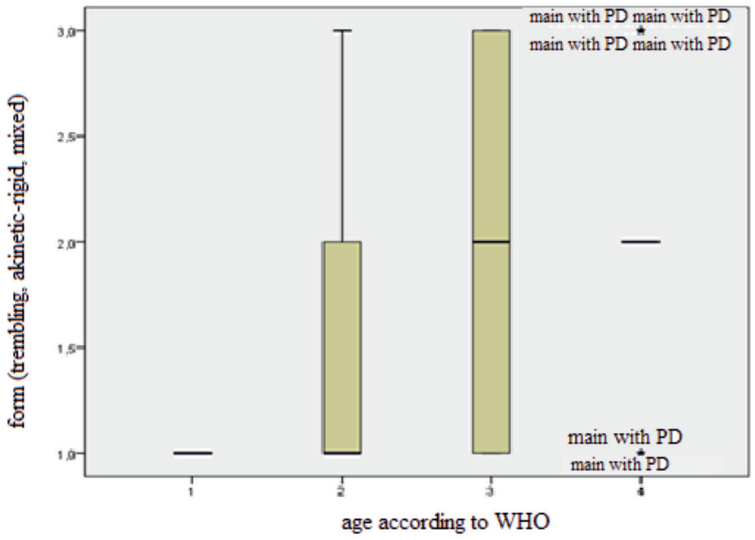

Figure 4. Comparative characteristics of patients with different courses of the disease, by age
Source: completed by authors

The disease severity in the examined patients corresponded mainly to stages 1-4 of the Hoehn and Yahr scale, with an average score of 2.75 ± 0.14 (Figure 5). Of 106 patients with PD, 44 scored 3 on the Hoehn-Yahr scale, 14 scored 4, and 2 scored 5. Most patients (41.5%, n= 44) had mild or moderate bilateral symptoms and had already developed visual and cognitive impairments. They maintained independence in everyday life but were unable to overcome retropulsion in the pull test.

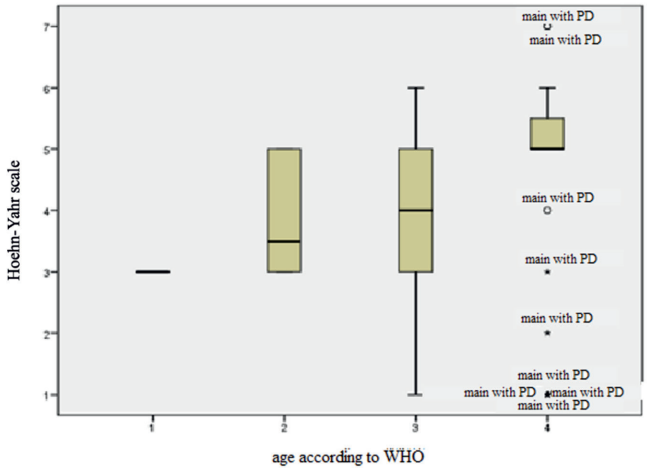

Figure 5. Comparative characteristics of PD patients by age and stages according to the Hoehn-Yahr scale
Source: completed by authors

In terms of disease duration, most patients (59.4 %, n = 63) have been ill for more than a decade, while 32 (30.1 %) have been ill for less than a decade. The disease duration expectedly increased with Hoehn-Yahr stages. All 13 patients with Hoehn-Yahr stages 1-1.5 had no cognitive impairments, and the duration of the disease was less than 10 years. With an increase in the Hoehn-Yahr stage to 2-2.5, the proportion of patients with the shortest disease duration (below 10 years) consistently decreased, while the proportion of patients with a longer disease duration (more than 10 years) increased. Six patients with the Hoehn-Yahr stage 2-2.5 PD had MCI. 56.6 % of patients with a disease duration of over 10 years were evenly distributed across stages 3-5 of the Hoehn-Yahr scale. Moreover, 34.9 % (37) of patients with dementia were in this subgroup versus 20.75 % (22) with MCI.

Overall disability or dependence, as measured by the Schwab and England scale, was significantly different among all subgroups and worsened progressively as the degree of cognitive impairment increased, and more so in patients with dementia.

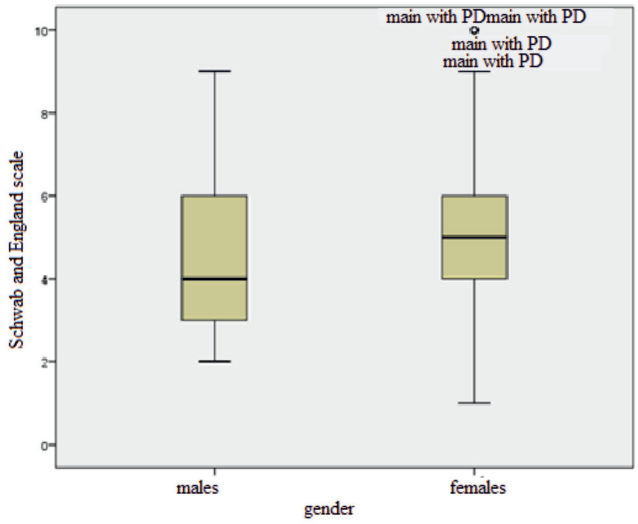

Figure 6. Comparative characteristics of PD patients by age and stages according to the Schwabe and England scale
Note - Box chart. IBM SPSS Statistics 27.0
Source: completed by authors

Among all patients without cognitive impairment, 48.78 % of individuals had a slight dependence on others, experiencing difficulty in performing certain daily activities (Figure 6). The remaining 51.22 % of patients in the subgroup were generally independent.

In the subgroup with MCI in PD, disability increased; over 50 % of patients were somewhat dependent on others, and 42.85 % were predominantly dependent in their daily activities. 7.14 % of persons were strongly dependent on others; they managed only a small portion of their activities independently.

Disability in the subgroup of patients with dementia was significant. Almost 29.72 % were highly addicted and managed only a small part of activities on their own, and 27 % were predominantly dependent on others; they sometimes could perform a small part of daily activities, and in most cases, they could not do without any help. Approximately 10.8 % of patients were completely dependent on their caregivers' assistance; they were unable to perform any tasks independently.

In our previous studies, patients with PD had a high prevalence of visual non-motor disorders, as well as a combination of visual hallucinations with cognitive impairment. We also revealed significant correlations of visual impairments with cognitive disorders [29; 32].

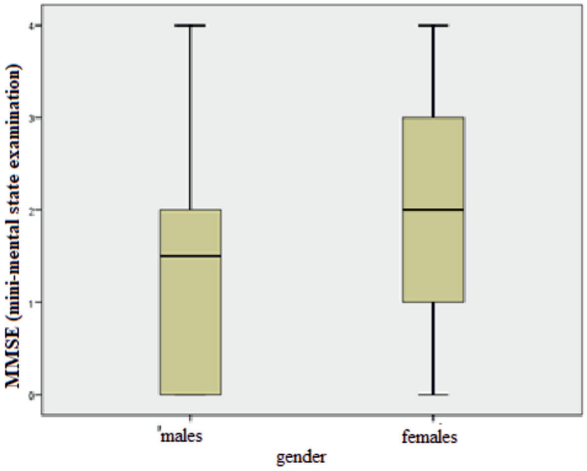

Figure 7. Comparative characteristics of patients with PD by gender and MMSE rating scale
Source: completed by authors

We observed a wide range of cognitive functions in PD patients who scored between 10 and 30 points on the MMSE scale.

Of 106 patients with PD, 41 (38.7 %) had a «normal» MMSE score, with a median of 28.9 ± 1.2. The mean MMSE score was 24.1 ± 0.9 in patients with MCI and 20.1 ± 2.1 in patients with dementia (Figure 7).

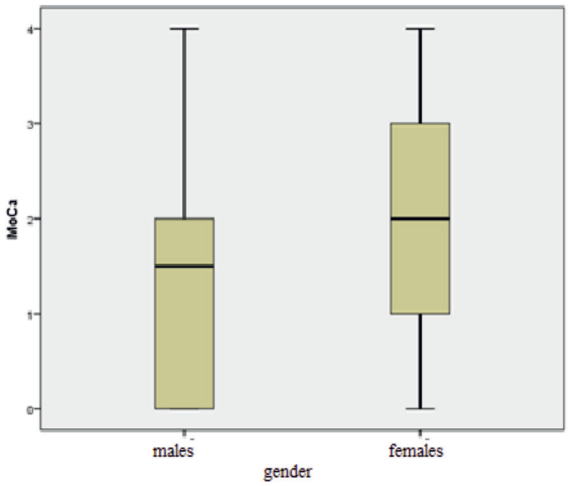

Figure 8. Comparative characteristics of the distribution of patients with PD by sex and the MoCa rating scale
Source: completed by authors.

Elder subgroups also presented more severe cognitive impairment and dementia compared to younger subgroups (Figure 8).

Multiple logistic regression revealed the following significant predictors of dementia in PD: education below average (9.43 %); severity of motor deficit in 20.76 % of patients with MCI and 34.82 % with dementia. The onset of PD typically occurs after the age of 60 years, and the disease's duration is more than 19 years.

Despite a tendency to deterioration in cognitive status in later stages of the disease, MCI can occur at any time, as evidenced by its presence in 4.72 % of patients in the early period of PD.

MoCA total scores are displayed based on gender. At a descriptive level, all MoCA weighted total scores, especially in patients with dementia, were lower than baseline total scores. Both baseline and weighted total MoCA scores differed significantly between patients with MCI and dementia compared with patients without PD cognitive impairment (24.7 ± 1.3, 19.5 ± 2.1, and 27.4 ± 2.6, respectively).

After excluding patients with dementia, the difference in total MoCA score between groups without cognitive impairment and MCI remained significant in both versions (*27.4* ± 2.6 and 24.7 ± 1.3, respectively). As expected, the rates between subgroups with dementia and without cognitive impairment were also significant (*27.4*±2.6 and *19.5*±2.1, respectively).

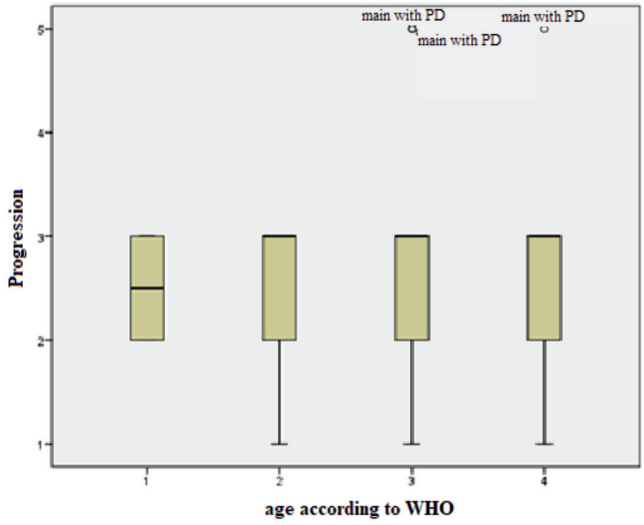

Figure 9. Comparative characteristics of the distribution of patients with PD from progression
Note - Box chart. IBM SPSS Statistics version 27.0
Source: completed by authors

We have assessed the progression of motor disorders in PD using the Hoehn and Yahr scale, which was also employed during patient interviews. We found that almost 51.8 % (55) of patients had a slow progression, characterized by a change in stage over 5 or more years (Figure 9).

In 33.9 % (36) of the study participants in the main group, a moderate rate of progression was observed, characterized by a change in stages within 2-5 years. In 14.1 % (15) of patients, there was a rapid progression of the disease, characterized by a change in stages within 2 years or less. The progression phase of the disease was the same at any age, with a common pathological endpoint.

We were unable to assess the progression of cognitive functions in PD, which is based on a slow process. This requires the evaluation of larger PD cohorts over longer follow-up periods with a comprehensive neuropsychological battery.

Thus, patients with dementia were older and less educated than those with MCI and without cognitive impairment. They had a longer duration of PD and a worse clinical and functional state. They had a worse quality of life and more serious social consequences.

As noted above, in this study, we applied the level I and II diagnostic criteria proposed by the International Society for the Study of Parkinson's Disease and Movement Disorders [11] to analyze differences between groups of patients with PD depending on their cognitive status.

We found significant differences in socio-

demographic, disease-related, and clinical variables depending on the severity of cognitive impairment, indicating the usefulness of these criteria for classifying patients with MCI and dementia in PD according to their cognitive status. Parkinson's patients suffering from MCI and dementia have been found to have more severe impairments than patients without cognitive impairment, with greater deterioration in both motor and non-motor symptoms.

Discussion

Our study confirmed that cognitive impairment is highly prevalent among patients with PD in Almaty, Kazakhstan. More than 60% of the examined patients demonstrated some level of cognitive decline, with 26.4% presenting MCI and 34.9% meeting criteria for dementia. These findings are consistent with global data reporting that up to 80% of PD patients eventually develop dementia. The results emphasize that cognitive dysfunction may manifest even in the early or moderate stages of PD and is not exclusively a late-stage symptom.

Older age, longer disease duration, low educational level, and the akinetic-rigid subtype were the strongest predictors of dementia. This finding aligns with those of Aarsland et al. (2010) and Pedersen et al. (2017), who have also highlighted the roles of age and disease duration in cognitive decline. In our cohort, disease duration exceeding 19 years and disease onset after age 60 were particularly associated with dementia, indicating that neurodegenerative progression in PD is cumulative and multifactorial.

Patients with lower education demonstrated more pronounced impairment, supporting the «cognitive reserve» hypothesis. Furthermore, the correlation between advanced Hoehn and Yahr stages and lower Schwab and England scores suggests that the severity of motor dysfunction is closely linked with cognitive deterioration, reflecting the diffuse neurodegenerative process affecting both dopaminergic and non-dopaminergic systems.

Our data highlight the need for early cognitive screening using sensitive tools such as the MoCA, even at the initial stages of PD, to facilitate timely interventions and cognitive rehabilitation.

Conclusions

Cognitive impairment is common in Parkinson's disease and tends to progress with disease duration and severity. The key predictors of dementia include older age at onset, disease duration over 19 years, low educational attainment, and severe motor deficit. Early detection and systematic monitoring of cognitive functions are crucial for improving quality of life, planning care, and slowing the progression of disability in PD patients.

Future longitudinal studies with larger sample sizes and extended follow-up periods are warranted to better understand the trajectory of cognitive decline and to identify potential protective factors that may delay the onset of dementia in PD.

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ПАРКИНСОН АУРУЫНДАҒЫ КОГНИТИВТІ БҰЗЫЛУЛАР ЖӘНЕ ДЕМЕНЦИЯ

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Аңдтпа

Паркинсон ауруындағы когнитивтік бұзылыстар – науқастардың өмір сапасын төмендететін және еңбекке жарамдылығын шектейтін маңызды мәселе. Ерте кезеңде анықтау мен уақтылы бақылау деменцияның дамуын баяулатуға мүмкіндік береді.

Мақсаты. Паркинсон ауруы бар науқастарда когнитивтік бұзылыстардың жиілігін және олардың деменцияға өтуіне әсер ететін қауіп факторларын анықтау.

Материалдар мен әдістер. Зерттеуге Алматы қаласындағы амбулаториялық клиникаларда бақыланған 106 науқас енгізілді. Паркинсон ауруының диагнозы халықаралық критерийлерге сәйкес расталды. Когнитивтік жағдай MMSE және MoCA шкалаларымен, ал аурудың ауырлығы Хен мен Яр және Шваб пен Ингленд шкалаларымен бағаланды.

Нәтижелері. Жеңіл когнитивтік бұзылыстар 26,4 % науқастарда, деменция – 34,9 %, ал бұзылыс болмауы – 38,7 % жағдайда анықталды. Когнитивтік төмендеу егде жастағы, білімі төмен, ауру ұзақтығы 10 жылдан асқан және акинетикалық-қатаң түрдегі науқастарда жиірек байқалды. Регрессиялық талдау деменцияның негізгі болжаушылары ретінде: 60 жастан кейінгі басталуы, ауру ұзақтығы 19 жылдан артық, төмен білім деңгейі және айқын моторлық дефицитті көрсетті.

Қорытынды. Паркинсон ауруындағы когнитивтік бұзылыстар жиі кездеседі және уақыт өте үдей түседі. Когнитивтік функцияларды ерте анықтау мен жүйелі бақылау науқастардың өмір сапасын жақсартып, деменцияның дамуын баяулатуға мүмкіндік береді.

Түйін сөздер: *Паркинсон ауруы, жеңіл когнитивтік бұзылыстар, деменция, MMSE, MoCA, когнитивтік дисфункция, қауіп факторлары.*

КОГНИТИВНЫЕ НАРУШЕНИЯ И ДЕМЕНЦИЯ ПРИ БОЛЕЗНИ ПАРКИНСОНА

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Аннотация

Когнитивные нарушения являются одним из наиболее частых и инвалидизирующих проявлений болезни Паркинсона. Они существенно снижают качество жизни пациентов и их семей, а также увеличивают риск утраты трудоспособности и социальной зависимости. Ранняя диагностика когнитивного дефицита имеет важное значение для своевременного вмешательства и замедления прогрессирования деменции.

Цель. Определить распространенность когнитивных нарушений и факторов риска их прогрессирования до деменции у пациентов с болезнью Паркинсона.

Методы. В исследование были включены 106 пациентов, наблюдавшихся амбулаторно в клиниках Алматы. Диагноз болезн Паркинсона был подтвержден по международным критериям. Когнитивный статус оценивали с помощью шкал MMSE и MoCA, степень тяжести заболевания – по шкале Хен и Яра и шкале повседневной активности Шваба и Ингленда.

Результаты. Мягкие когнитивные нарушения выявлены у 26,4% пациентов, деменция – у 34,9 %, отсутствие нарушений – у 38,7 %. Более выраженное снижение когнитивных функций чаще наблюдалось у пациентов старшего возраста, с низким уровнем образования, длительностью болезни более 10 лет и акинетико-ригидным типом течения. Регрессионный анализ выявил предикторы деменции: дебют заболевания после 60 лет, длительность болезни свыше 19 лет, низкий уровень образования и выраженные двигательные нарушения.

Выводы. Когнитивные расстройства при болезни Паркинсона встречаются часто и прогрессируют с течением заболевания. Ранняя диагностика и регулярный мониторинг когнитивных функций позволяют замедлить развитие деменции и повысить качество жизни пациентов.

Ключевые слова: *болезнь Паркинсона, лёгкие когнитивные нарушения, деменция, MMSE, MoCA, когнитивная дисфункция, факторы риска.*

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