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ASSESSMENT OF AFFECTIVE, PSYCHOEMOTIONAL STATE, AND COGNITIVE ACTIVITY IN PARKINSON'S DISEASE

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Abstract. This article is dedicated to the study of the affective, psychoemotional state, and cognitive function of Parkinson's disease, as well as to the study of quality of life after treatment of patients with Parkinson's disease. Parkinson's disease (PD) is a neurodegenerative disease that ranks second in prevalence. The manifestation of clinical symptoms after the death of 50-70% of dopaminergic neurons leads to a late diagnosis of the disease, resulting in a delay in treatment. The later the diagnosis is made, the lower the effectiveness of drug treatment. This research was conducted by the Department of Neurology of the Bukhara State Medical Institute at the Bukhara District Medical Association. In Parkinson's disease, the patient's quality of life significantly decreases, and when stabiliometric training is included in standard therapy, physical activity, role-playing physical activity, pain intensity, general health status, vitality, and role-playing emotional activity significantly improve.

Keywords: Parkinson's disease, cognitive activity, treatment, quality of life.

Introduction. Parkinson's disease (PD) is a neurodegenerative disease and ranks second in terms of prevalence. This disease is characterized by the loss of dofaminergic neurons in the black substance (BS) and the accumulation of protein motility among neurons, called Levi's body. Several studies have cited data on PD epidemiology. In non-selective populations, it is generally accepted that the prevalence of the disease is between 1 and 2 per 1,000 people and that the disease affects 1% of the population over 60 years of age [2,5]. PD is rare until the age of 50 and reaches 4% in the highest age groups. PD movement disorders are characterized by dyskinesia, calm tremor, as well as inappropriate signs-dysfunction of the gastrointestinal system and dysfunction of the vegetative nerves. Parkinson's disease (PD) is the second most common neurodegenerative disease after Alzheimer's disease and is characterized by several movement and non-motile symptoms that accumulate over time [1,3,8]. Nowadays, PD has become one of the main causes of disability all over the world, which puts a

significant burden on individual and social levels. The prevalence of PD is 1% after the age of 60 and 3% after the age of 80.[5,6] There is no effective cure for PD, since the underlying mechanism underlying its pathogenesis is not known to the end, the target for early diagnosis and treatment is not known. The manifestation of clinical signs after 50-70% of dopaminergic neurons are hallowed leads to a late diagnosis of the disease, as a result of which the treatment measure is delayed. The later the disease is diagnosed, the lower the effectiveness of medicamentous treatment.[2,4,7]

The purpose of the study. The study of the affective, psychoemotional state, cognitive activity, and quality of life of patients with Parkinson's disease.

Material and methods. This scientific work was carried out by the Department of neurology of the Bukhara State Medical Institute at the Bukhara District Medical Association. The study was conducted in a total of 120 patients to achieve the goals and objectives pursued by the study. All patients were allocated to 2 groups.

90 patients with group Parkinsonism syndrome, 2nd group. 30 patients with Alzheimer's disease. Group 1 classified patients into three subgroups: Parkinson's disease(n=72), multisystem atrophy (n=9), corticobasal degeneration (n=9). The diagnosis of Parkinson's disease was made according to the criteria of "Parkinson's Disease Society Brain Bank". In Ia(PD) group males were 29 and females 43, with the average age of patients being 66.0±6.7; in 1b(MSA)-9 patients with males-4, females 5, average age 61.1±5.8; in Ic(CBD)-9 patients with male-3, female-6, patients with an average age of 57.0±4.3

II- control group-30 patients with Alzheimer's disease 30 people average age 65.1±9.1.

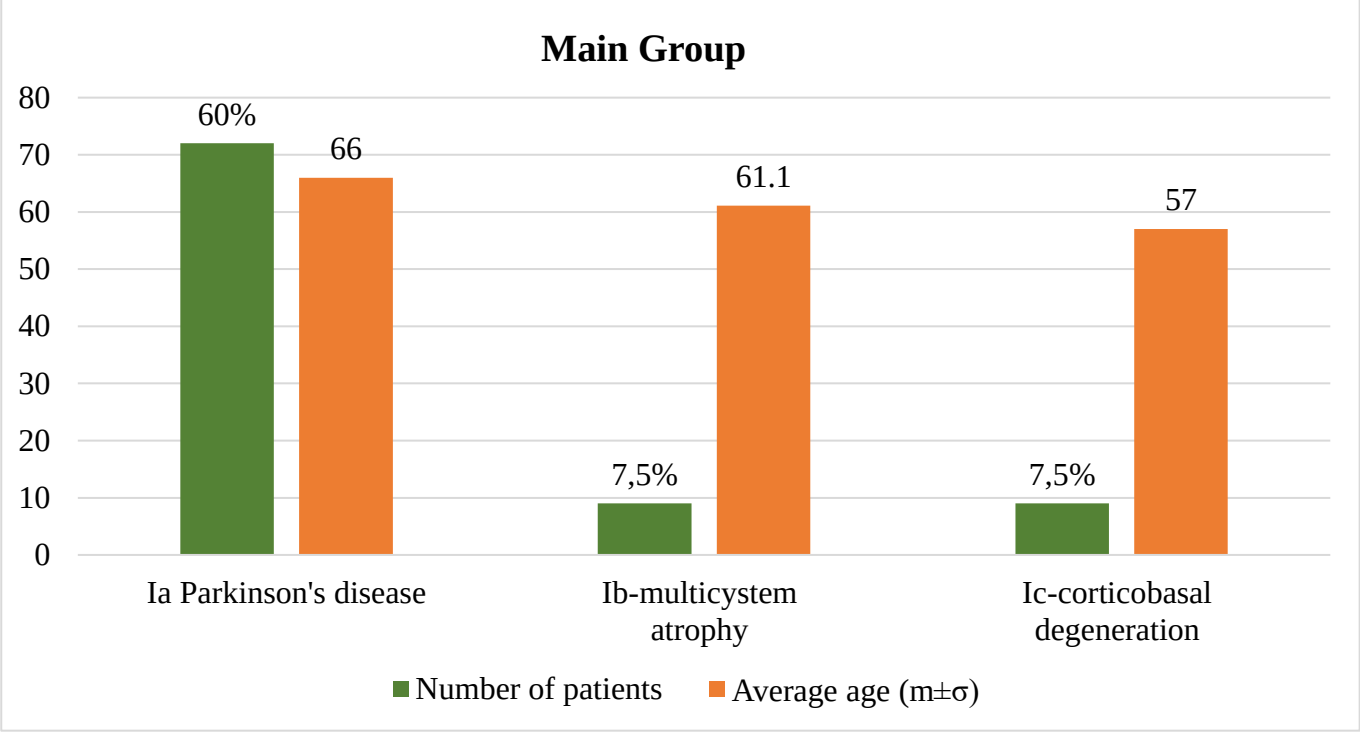

Fig 1. Patient age and nosological form of the main group (n=90)

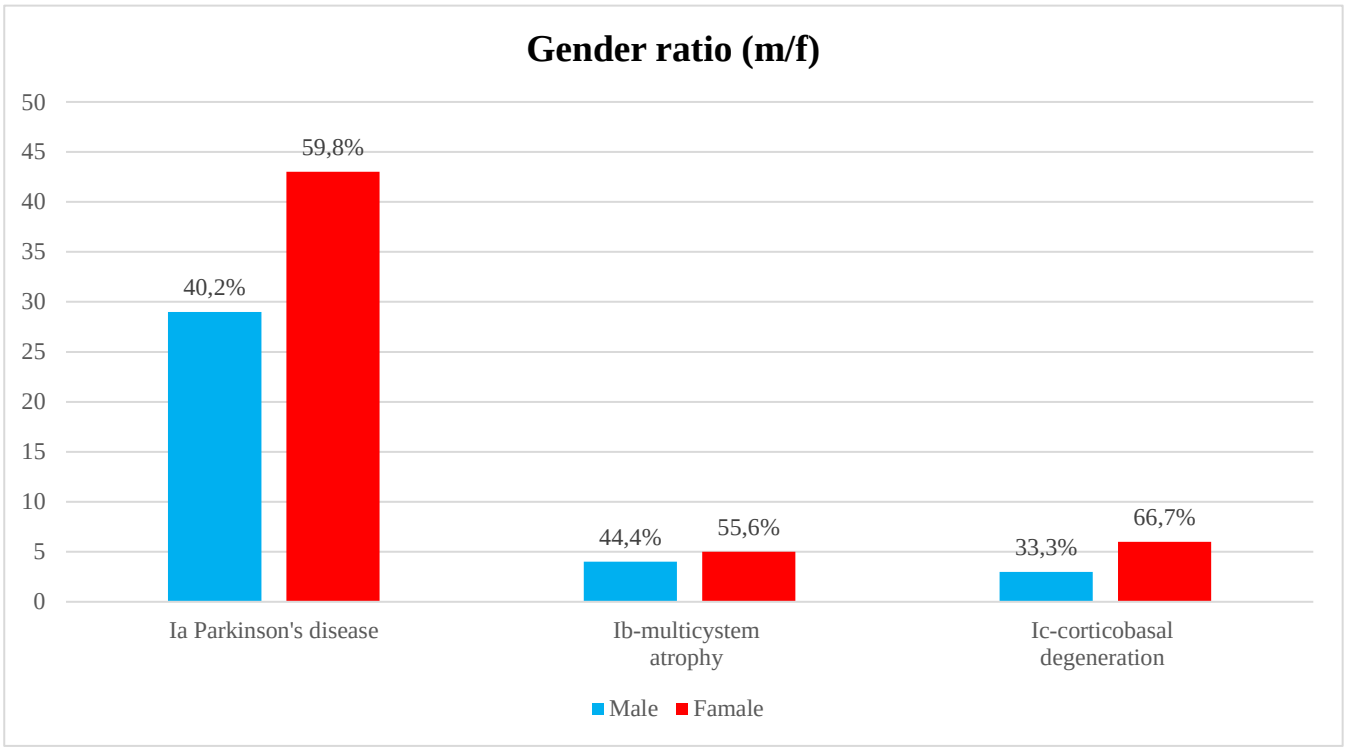

Fig 2. Patient gender ratio of the main group (n=90)

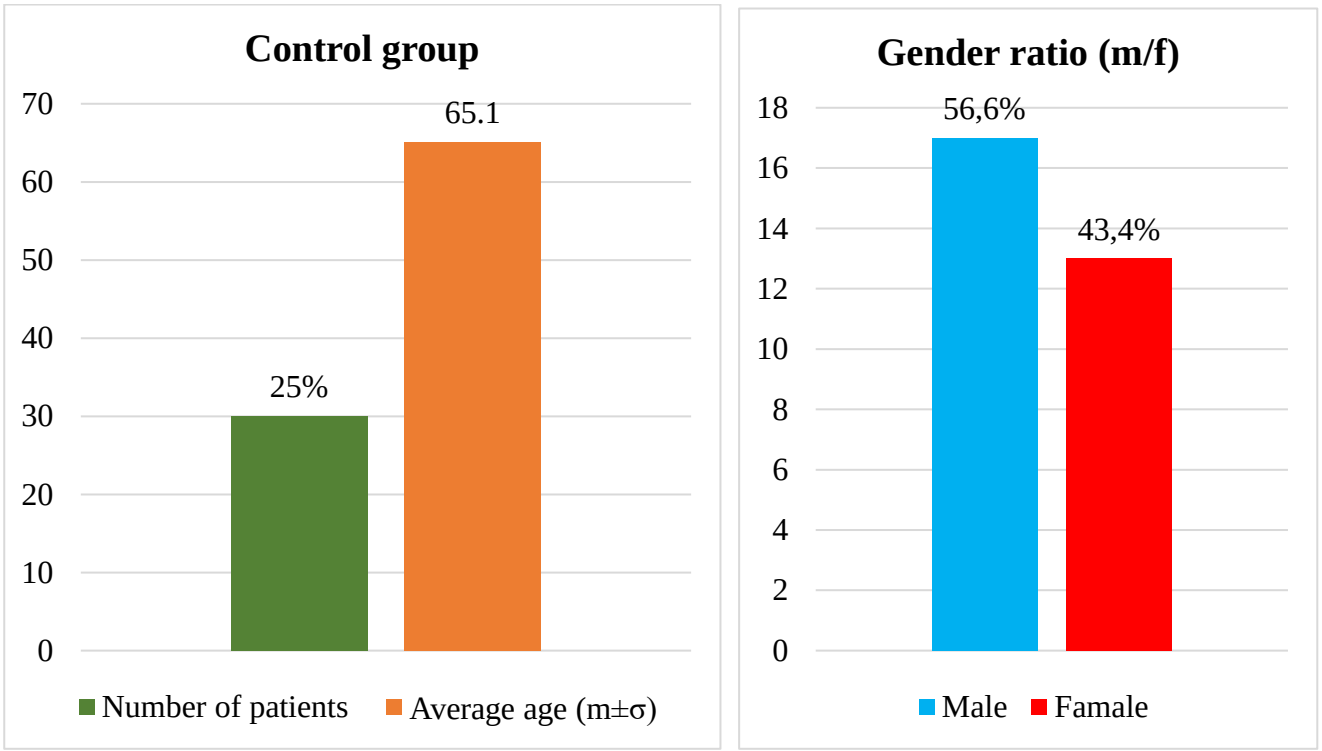

Fig 3. Patient age, nosological form and gender ratio of the control group (n=30)

Results. The weight of Parkinsonism was assessed according to the Hoehn and Yahr scale, and according to it, patients in the 1st group were assigned to the following stages:

Table 1

Distribution of patients in groups on the Hoehn and Yahr scale

Hoehn and Yahr stage	I-a (PD)	II –b (MSA)	III-c (CBD)
I	n=22 (31%)	n=3(10%)	n=4(44,4 %)
II	n=29 (40%)	n=18(60%)	n=4(44,4 %)
III	n=21(29%)	n=9 (30%)	n=1(11,2 %)

Clinical forms of PD are: akinetico-rigid type 21(29.1%), tremor form 22(31%), mixed - 29(39.9%). The akinetico-rigid type was 21(70%), Mixed was 99(30%) in MSA small group patients. 7 (77.7%) akinetico-rigid type, 2(22.3%) mixed type have been identified in CBD small group patients.

Table 2

Distribution of patients by disease type in the study groups

Disease form	I-a (PD)	II –b (MSA)	III-c (CBD)
akinetico-rigid	n=21 (29,1%)	n=21(70 %)	n=7(77,7 %)
mixed	n=29(39, 9%)	n=9(30%)	n=2(22,3 %)
tremor	n=22(31 %)	n=0 (0%)	n=0 (0%)

The manifestation of comorbid disorders was studied in research groups. Emotional disturbances in patients with Group 1 were 55.56±5.86% pre-treatment, and sleep disturbances were 90.28±3.49%. Emotional disorders in patients with Group 2 accounted for 68.89±6.9% of pre-treatment cases and sleep disorders 57.78±7.36% (Table 4).

Table 3

Manifestation of comorbid disorders in research groups

Comorbid disorders		1-group		2-group		Chi-square Pearson	
		abs	M±m,%	abs	M±m,%	χ^2	P
Emotional disorders	before	40	55,56±5,86	19	68,89±6,9	2,063	0,151
McNamer Criterion	P	0,000		0,000			
Sleep disorders	before	75	90,28±3,49	16	57,78±7,36	16,923	0,000
McNamer Criterion	P	0,000		0,000			

Thus, while comorbid disorders are dominated by sleep disorders in PK patients, emotional disorders often predominate in episodic tension headaches.

Taking into account the observation of anxiety in patients with tension headaches, the HADS scale for assessing anxiety and depression was used in both groups of patients. Anxiety levels in 1-group patients were 27.78±5.28% pre-treatment normative indicators, subclinical anxiety 33.33±5.56%, high clinically expressed anxiety 38.89±5.75%. When depression levels were assessed, non-depressive states were 26.39±5.19%, subclinical depression was 25±5.1%, and high clinically expressed depression was 48.61±5.89%.

Anxiety levels in 2-group patients were 24.44±6.41% before treatment, subclinical anxiety 35.56±7.14%, high clinically expressed anxiety 40±7.3%. When depression levels were assessed, non-depressive states were 37.78±7.23%, subclinical depression was 22.22±6.2%, and high clinically expressed depression was 40±7.3%.

Table 4

The level of anxiety and depression on the HADS scale (before treatment)

HADS scale determination of level of anxiety and depression	1-group			2-group		
	abs	M±m,%	P	abs	M±m,%	P
Section 1 (Determining Anxiety Level)						

Determination of Anxiety level of the HADS scale	0-7-norm (without reliable air signs)	25	27,78±5,28	χ^2=1,333; p = 0,513	11	24,44±6,41	χ^2=1,733; p = 0,420
	8-10 subclinical anxiety	30	33,33±5,56		9	35,56±7,14	
	11 and highly clinically expressed anxiety	35	38,89±5,75		10	40±7,3	
P		Chi-square Pearson = 0,165; p = 0,921					
Section 2 (Assessment of Depression Level)							
HADS Depression Scale	0-7-norm (without reliable air signs)	23	26,39±5,19	χ^2=7,583; p = 0,023	13	37,78±7,23	χ^2=2,533; p = 0,282
	8-10 subclinical depression	22	25±5,1		5	22,22±6,2	
	11 and highly clinically expressed depression	45	48,61±5,89		12	40±7,3	
P		Chi-square Pearson = 1,710; p = 0,425					

Thus, no statistically significant differences were found in the indicators of anxiety and depression levels in the study groups. The presence of high rates of anxiety and depression in patients requires correction.

The level of anxiety and depression on the HADS scale after the therapeutic measures applied was as follows: in patients of the 1st group, the absence of anxiety was 76.39±5.01%, subclinical anxiety 22.22±4.9%, and highly clinically expressed anxiety 1.39±1.38% (r = 0.000). Depression was absent in 76.39±5.01% of cases, subclinical depression in 76.39±5.01% of cases, and highly clinically expressed depression in 4.17±2.35% of cases (r = 0.000).In the 2nd group of patients, the absence of anxiety was 97.78±2.2%, subclinical anxiety was 0±0.0%, and highly clinically expressed anxiety was 2.22±2.2%. Depression was absent in 93.33±3.72%, subclinical depression in 4.44±3.07%, and highly clinically expressed depression in 2.22±2.2% (r = 0.000).

Table 5

The level of anxiety and depression on the HADS scale against the backdrop of treatment in patients of the study group

HADS scale determination of level of anxiety and depression	1-group			2-group		
	abs	M±m,%		abs	M±m,%	
Section 1 (Determining Anxiety Level)						

Determination of Air level of the HADS scale	0-7-norm (without reliable air signs)	73	76,39±5,01	χ^2=64,750; p = 0,000	29	97,78±2,2	χ^2=41,089; p = 0,000
	8-10 subclinical anxiety	16	22,22±4,9		0	0±0	
	11 and highly clinically expressed anxiety	1	1,39±1,38		1	2,22±2,2	
P		Chi-square Pearson = 11,610; p = 0,003					
Wilcoxon criterion	P	Z=-5,599; p=0,000			Z=-5,169; p=0,000		
Section 2 (Assessment of Depression Level)							
HADS scale for determining anxiety and depression levels	0-7-norm (without reliable air signs)	73	76,39±5,01	χ^2=62,583; p = 0,000	27	93,33±3,72	χ^2=72,933; p = 0,000
	8-10 subclinical depression	14	19,44±4,66		2	4,44±3,07	
	11 and highly clinically expressed depression	3	4,17±2,35		1	2,22±2,2	
P		Chi-square Pearson = 5,822; p = 0,054					
Wilcoxon criterion	P	Z=-5,599; p=0,000			Z=-4,617; p=0,000		

Thus, anxiety and depression in patients of both groups decreased against the background of treatment, which was particularly pronounced in patients of group 2 (Chi-square Pearson = 11.610; p = 0.003). A study of the quality of life of patients in the study group after treatment showed that patients in group 1 showed an improvement in physical activity by 4.04, role-based physical activity by 1.93, pain intensity by 1.14, general health status by 0.65, viability by 0.10, social activity by 0.18, role-based emotional activity by 0.81, and mental health by 0.32.

Group 2 showed an improvement in physical activity by 1.04, role-playing physical activity by 2.02, pain intensity by 1.97, overall health status by 0.91, vitality by 2.18, social activity by 0.23, role-playing emotional activity by 0.71, and mental health by 0.98.

Table 6

SF-36 Quality of Life Questionnaire

SF-36 Quality of Life Questionnaire		1-group	2-group
Physical activity (PA)	Before treatment	22±0,53	23,27±0,57
	After treatment	26,04±0,27$^{\Delta}$	24,31±0,39**
Role physical activity (RA)	Before treatment	5,03±0,12	5,29±0,14
	After treatment	6,96±0,11$^{\Delta}$	7,27±0,07$^{\Delta}$
Pain intensity (PI)	Before treatment	5,82±0,18	6,33±0,21
	After treatment	3,93±0,12$^{\Delta}$	4,4±0,15***$^{\Delta}$
General state of Health (GH)	Before treatment	13,64±0,39	13,98±0,34
	After treatment	14,29±0,19$^{\Delta}$	14,89±0,28***$^{\Delta\Delta\Delta}$
Viability (VA)	Before treatment	13,68±0,21	14,11±0,45
	After treatment	13,78±0,21$^{\Delta}$	11,93±0,31*$^{\Delta}$
Social activities (SA)	Before treatment	5,29±0,08	5,28±0,09
	After treatment	5,47±0,12$^{\Delta\Delta\Delta}$	5,51±0,1
Role emotional activity (RE)	Before treatment	4,25±0,1	4,27±0,2
	After treatment	5,06±0,06$^{\Delta}$	4,98±0,04$^{\Delta}$
Mental health (MH)	Before treatment	18,44±0,23	17,78±0,22
	After treatment	18,76±0,24	18,76±0,26*

Note: * - compared to group 1 (*** - P<0.05; ** - P<0.01; * - P<0.001); D - compared to the "pre-treatment" value (DDD - P<0.05; DD - P<0.01; (D-P<0.001) The difference in reliability between the arithmetic means is established.

So, physical activity, role-playing physical activity, pain intensity, general health status, viability, role emotional activity was significantly improved in patients of group 1 (P<0.001). social activity significantly improved (P<0.01).Patients in group 1 showed a significant improvement in physical activity compared to patients in group 2 (P<0.01). General health status was significantly improved compared to pre-treatment values (P<0.05), while viability was significantly improved (P<0.001).

Conclusion. Assessing quality of life indicators allows for an objective assessment of the patient's condition, identifying the main health-related factors that worsen quality of life, and prioritizing them accordingly. Integrated data on the physical, psychological, spiritual, and social aspects of the disease contribute to an understanding of the general patterns of the patient's attitude towards the pathological process, identifying individual characteristics of the patient's attitude towards the disease, as well as evaluating the effectiveness of treatment for a specific patient based on individual monitoring data, and using this data to determine a personalized treatment program. In Parkinson's disease, the patient's quality of life significantly decreases, and when conducting stabilometric training in combination with standard treatment, physical activity, role-playing physical activity, pain intensity, general health status, vitality, and role-playing emotional activity significantly improve ($P<0.001$). In frequent episodic PD, health status and viability significantly improved ($P<0.001$).

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