

ASSESSMENT OF THE REHABILITATION POTENTIAL OF POST-STROKE PATIENTS AT THE OUTPATIENT STAGE

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Abstract:

Before and after the rehabilitation process, each patient was examined for a comprehensive clinical and functional assessment of their condition, and the goals and objectives of the planned rehabilitation were discussed. Each patient who underwent a stroke underwent the practice of diagnosing elementary functions: movement, intuition, as well as higher cortical functions and mental state, cognitive and communicative capabilities of the patient. At the same time, the safety of household life skills was assessed: self-service ability (dressing, dining, toilet, washing) and mobility: movement at home and outside, the use of auxiliary devices, self-protection when moving, and the need for external assistance was satisfied.

Keywords: *rehabilitation, forecasting, stroke.*

Introduction

This clinical and functional assessment was carried out initially and after the end of rehabilitation and rehabilitation treatment. Based on the results of this set of examinations, the rehabilitation potential of each patient is determined and its individual rehabilitation prognosis is determined.

Rehabilitation and preventive work was carried out based on the following criteria:

- 1) the period after ischemic stroke is from 6 to 18 months
- 2) male or female patients aged 40 to 80 years;
- 3) rehabilitation routing (RMSH) indicator 2-3 points;
- 4) absence of severe concomitant somatic pathology;
- 5) the possibility of effective contact with the patient;

6) consent of the patient to participate in the study.

Exclusion criteria:

- 1) the duration of the stroke is less than 6 months and more than 1.5 years;
- 2) severe concomitant somatic and infectious pathologies;
- 3) severe cognitive impairment (Addenbrooke's cognitive scale >24);
- 4) sensitive or coarse motor aphasia according to neurological examination;
- 5) serious vision disorder that does not allow you to follow visual instructions on the computer screen;
- 6) development of acute or decompensation of a chronic disease with a risk of potential impact on the results of the study;
- 7) lack of consent to participate in the study.

In the process of rehabilitation measures, patients were divided into 3 groups (Photo – 1)

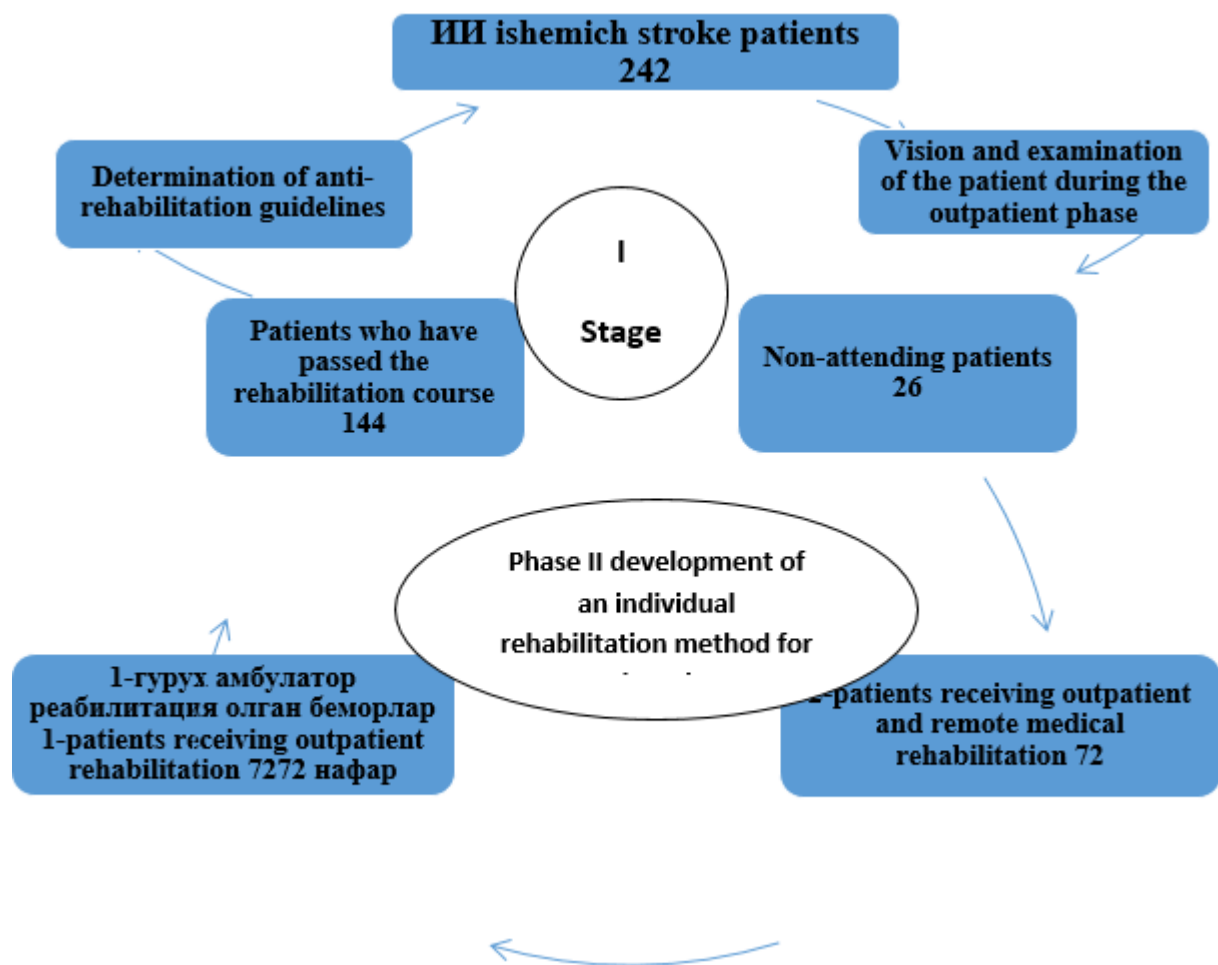


Photo-1. The rehabilitation process was 1.2 Weeks, 1 – 3 -6 months.

In the study, when patients were distributed according to gender, males accounted for 144 (61%) while females accounted for 84 (37%). The average age of patients was 52.9 ± 2.3 years, and 42-75 years if there was a difference in age range ($p > 0.05$). Up to the time of the stroke, patients who were qualified and worked to this day accounted for 77%.

Of the neurological signs identified in all group patients in the study: episodic diffuse headaches disturbed 97 (45%) of patients, movement disorders – 79 (37%) of patients, 93 (43%) of patients

found different sleep disorders, speech disorders-36% of patients, non – systemic dizziness-58 (27%), mood swings during the day were reported by 34 (19%) of patients.

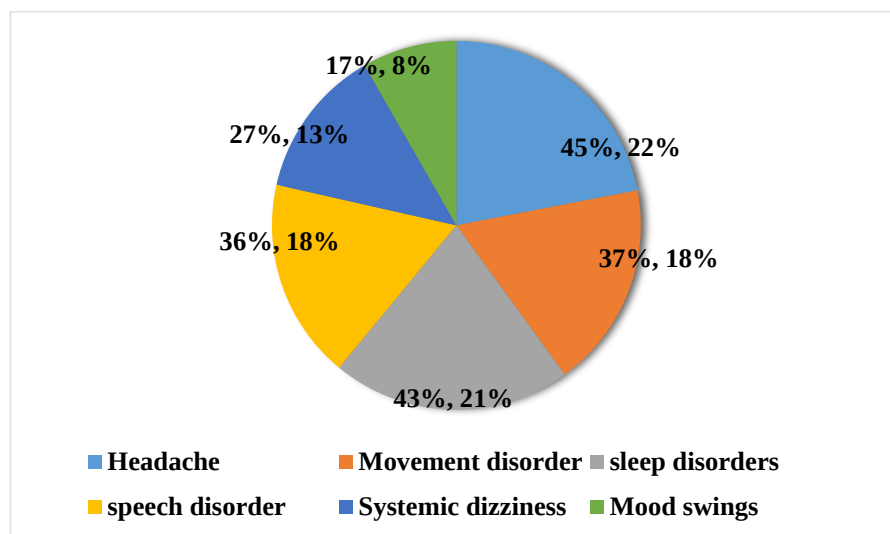


Photo-2. Frequency of occurrence of neurological signs in research groups.

The duration of the stroke was 10.6 ± 2.7 months, with no statistically significant differences between the groups ($p > 0.05$). According to the periodization of recovery stages after a stroke, all 100% of patients (144) had a late recovery period. According to the neurological examination and visual inspection (CT, MRI), all patients were diagnosed with ischemic stroke. For the first time, Primary Stroke was detected in 84% (60/72) patients in the first batch patients, 16% (12/72) re - II, 46% (33/72) of the 2nd batch patients had re-II in their Anamnesis, with primary II 54% (39/72) (photo 3).

According to data collected using outpatient cards, atherosclerosis was observed in patients in 63% (90/144), arterial hypertension -72% (103/144), coronary heart disease and / or cardiac arrhythmias-38% (54/144), diabetes mellitus - 23% (33/144). Did not undergo rehabilitation treatment at the outpatient stage and underwent outpatient medical rehabilitation

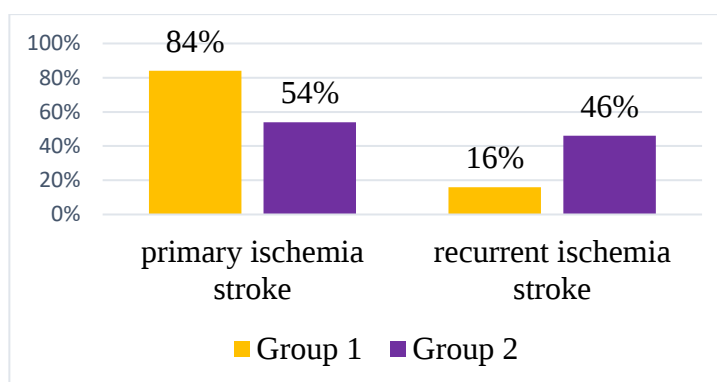


Photo -3. Distribution by number of previous strokes in patients, % comparative analysis of the spectrum of co-observed nosologies in patients' Anamnesis did not reveal statistically significant differences ($p > 0.05$).

The high variability in the spectrum of complications and long-lasting symptoms resulting from a stroke forms the need for complex medical rehabilitation measures. The main methods of medical rehabilitation used in the Bukhara region include kinesotherapy, electrotherapy, therapeutic massage, home rehabilitation with elements of occupational therapy, training with a psychologist, social worker and speech therapist. Taking into account the equipment and transfer capabilities for patients who have had a stroke in outpatient rehabilitation units, the main physical methods are:

exercise and treatment with non-predicamentous technologies (Table-1). In order to assess the effectiveness of a two – week course of outpatient rehabilitation of post-stroke patients, in the first stage of this study, the health indicators of 144 patients were studied by the WHO, according to the definition of the term dynamics of the main indicators of health status-physical, mental and social.

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In general, the outpatient stage of rehabilitation is aimed at adapting to daily household conditions, reducing the severity of movement and other neurological complications caused by a stroke.

During this study, as a criterion for assessing the effectiveness of rehabilitation measures, 16 main indicators were identified that allow you to assess neurological deficits, movement functions, possible risks of patients falling, psycho-emotional state, cognitive functions, degree of disability, frequency of repeated blows and the number of visits to the Polyclinic at their place of residence, degree of independence and

Table 1. Quantitative algorithm for assessing the patient's rehabilitation potential (Pryanikov I. V., 2001),

Name and values of indicators	Low rehabilitation options	Етарли реабилитация имкониятлари
I Action function:		
The motor function of flies	Яққол гемипарез	Ўртача ва енгил гемипарез
Muscle strength	2,0 ва ундан кам балл	3,0 ва ундан ортиқ балл
Dynamometry	7,8±2,0 кг	13,5±1,5 кг
Active movements in the joints of the fly:		
shoulder	18,0±2,6	35,6±5,6
elbow	20,5±4,5	38,0±8,0
wrist	12,0±3,0	34,8±4,2
shoulder joint	15,0±6,0	Saved actions
pelvic-femoral	7,7±2,7	17,8±2,2
Knee	8,9±3,7	25,2±9,4
Heel knee	6,0±1,3	16,6±2,3
Biomechanical data of walking		
The number of steps in the Walk is 100 m	209 ± 7,0	163,0 ± 4,0
Walking speed	36±4 step/min	58,0±3 step/min
II. Vestibular-cerebellar disorders:		
spontaneous Nystagmus	II–III degree	I–II даража
Rotatory nystagmus	85–120 сек	50–80 сек
III. Psychological characteristics of personality:		
Attention	200–300 characters	400–600 characters
Remembering images	16 from 2 images	3-4 images from 16
Thinking	1–3 ball	4–6 ball
Depression Scale	60–70 ball	50–59 ball
Jet engines and personal problems	46 ball	31–45 ball

PULSES Profile a simple way to assess the level of mobility of the patient using the test.

Addenbrooke's modificized cognitive scale is used to evaluate individual cognitive domains in 5 small measure height cha.

The two-week dynamics of physical health rates in stroke patients became more accurate in four of the five rates analyzed in patients in outpatient rehabilitation (Table 2).

Quantitative algorithm for assessing the patient's rehabilitation potential (Pryanikov I. V., 2001) was applied to assess the rehabilitation potential of stroke patients. Rehabilitation showed a statistically significant positive trend (13.0%) of patient values in both groups, compared with initially identical values (2-3 points), which were only the outpatient phase of rehabilitation

Table 2. Dynamics of physical health indicators of stroke patients against the background of outpatient rehabilitation

№	indicators	Group 1 (M±m)		Group 2 (M±m)		Confidence level (p)			
		before treatment	After 2 weeks	before treatment	After 2 weeks	After 1 weeks *	After 2 weeks 2*	1**	2***
1	PULSES Profile of the test	2,53±0,5	2,20±0,5	2,40±0,5	2,33±0,5	0,309	0,251	<0,05	0,528
2	Ladenburg scales (score)	13,40±0,7	13,97±0,8	13,53±0,6	13,57±0,6	0,432	<0,05	<0,01	0,735
3	Battery test to assess forehead dysfunction	2,57±0,5	2,17±0,5	2,60±0,5	2,47±0,5	0,798	<0,05	<0,01	0,262
4	Pain relief (Wash, ball)	3,23±1,1	2,33±0,5	3,03±0,9	2,40±0,5	0,427	0,599	<0,05	<0,05
5	Falling coefficient, score	2,53±0,7	2,23±0,6	2,90±0,9	2,70±0,7	0,085	<0,01	<0,05	0,182

Note: * - differences between Group 1 and group 2; * * - 1- differences in the dynamics of the group; * * * - 2- differences in group dynamics

The rate of mobility of patients predicted by the pulse Profile test increased statistically significantly ($p<0.01$) in the 2nd group of 4.3% tactics. At the same time, Group 1 patients did not experience a positive change in dynamics after 2 weeks ($p>0.05$).

The 2nd group also had a statistically significant ($p<0.01$) reduction of 18.4% in patients who had undergone two weeks of outpatient rehabilitation with impaired functions and independence in daily life, which initially had the same values ($p>0.05$). At the same time, the value of the group 1 pulse Profile test decreased by only 5.3%, which turned out to be statistically insignificant ($p>0.05$).

Pain syndrome has decreased statistically significantly in both groups regardless of the form of rehabilitation treatment ($p<0.05$). At the same time, the values of the vash scale in both groups were compared in dynamics ($p>0.05$).

The two-week dynamics of mental health rates in stroke patients became more accurate in one of three indicators analyzed in patients in outpatient rehabilitation (photo -4).

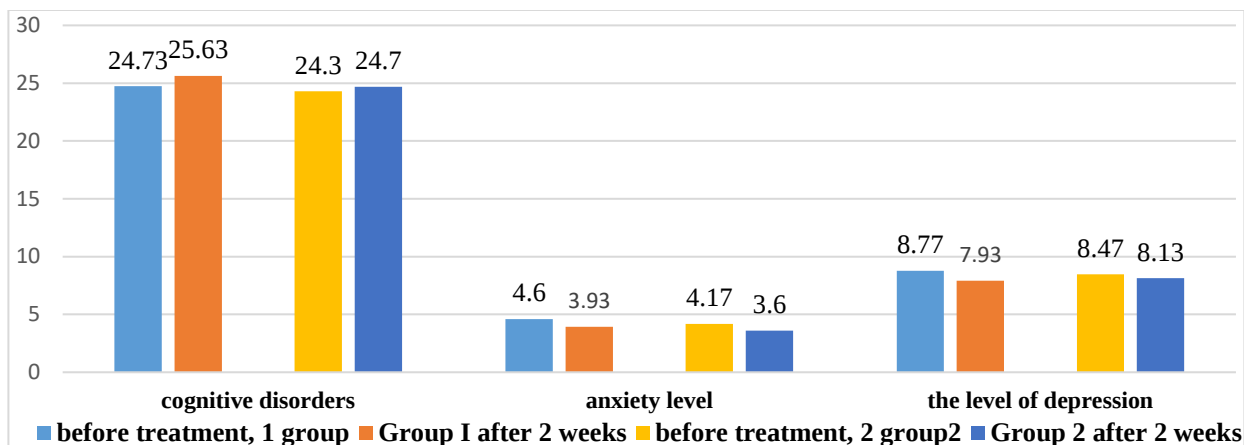


Photo - 4. Dynamics of mental health indicators of stroke patients against the background of outpatient rehabilitation

note: * - differences in groups 1 and 2; 1-2*** <0,01. 0,320; <0,05; <0,05. 0,321**

When assessing cognitive impairment in groups with an equally low baseline value on the Adenburg scale, positive dynamics was established in group 2 against the background of rehabilitation treatment (+3.6%, $p < 0.01$), while in the rest of the group the dynamics of the analyzed indicator turned out to be statistically insignificant ($r > 0.05$).

Initially, the level of cognitive impairment in patients of both groups decreased to a standard indicator, and hospital anxiety and depression did not exceed 7 points. After 2 weeks, both groups 1 and 2 showed a 1.1-fold decrease in the anxiety index ($r < 0.05$). The presence or absence of an outpatient rehabilitation stage did not affect the final values of the anxiety level. Perhaps this dynamics is explained by the psychological adaptation of patients to the current situation; the completion of the acute stage of a stressful situation caused by the underlying disease; poisoning by the manifestation of the disease.

At the same time, in his arsenal, the outpatient stage of rehabilitation treatment, including individual and group sessions with a medical psychologist, was reflected in a statistically significant ($R < 0.05$) decrease in the level of depression by 9.6% compared with the initial data. No dynamics of results were observed in patients of group 1 ($R > 0.05$). At the same time, dynamic observation of this group showed an increase in the coefficient of variability of indicators from 23% to 31%, which indicates an expansion of the distribution of values of this trait after 2 weeks.

Human social flexibility is one of the most pressing problems for rehabilitation of post-stroke patients, both for the health system and for society as a whole. The two-week dynamics of the social health indicators of stroke patients became more accurate in all analyzed indicators of patients in outpatient rehabilitation (Table 3).

Table 3. Dynamics of indicators of social health of stroke patients against the background of outpatient rehabilitation

№	indicators	Group 1 (M ±m)	Group 2 (M ±m)	Confidence level (p)		
				1-2*	1**	2***
1	Autonomy for the help of others,	2,23±0,7	2,17±0,7	0,719	0,107	0,201

	points	1,97±0,5	2,40±0,6	<0,01		
2	Level of social adaptation, score	2,20±0,4	2,03±0,6	0,190	<0,05	0,320
		2,53±0,5	2,20±0,6	<0,05		
3	Degree of adherence to treatment, score	2,10±0,4	1,87±0,6	0,073	<0,01	0,203
		2,47±0,6	1,70±0,5	<0,001		

Note: * - differences between Group 1 and group 2; * * - 1- differences in the dynamics of the group; * * * - 2- differences in group dynamics

The level of extensibility of patients to their loved ones and relatives turned out to be higher in Group 2 ($p < 0.01$) compared to patients who passed the outpatient stage. In a long-term assessment after 6 months, the "independence" indicator in Group 2, which passed the outpatient stage, showed a statistically significant difference compared to Group 1 ($p < 0.05$). In Group 1 patients, the rate of dependence on others increased statistically significantly ($p < 0.05$). This gives us the right to assume that the outpatient stage of medical rehabilitation helps to form the independence of patients and reduces the level of dependence on strangers in everyday life.

Initially with the same level of social activity, two weeks after observation, it was found that group 2 patients had statistically significant ($p < 0.05$) increases in interpersonal communication, participation in social processes, and expression of interests. According to the results of a survey of relatives of patients in Group 1 of 13% (9/72), on the contrary, there was a tendency to reduce socialization, the level of verbal communication and the reaction to environmental changes. During the long-term follow-up, 17% of Group 1 patients (12/72) began to abuse alcohol against the background of problem rejection.

The rate of adherence to treatment in Group 2 patients turned out to be higher ($p < 0.01$) than in Group 1 patients, which corresponds to the distribution of patients among the analyzed groups-one of the stratification criteria for randomization was the patient's consent to undergo the outpatient phase of rehabilitation treatment. However, the passage of the outpatient stage and, perhaps, the positive effect of rehabilitation, statistically significantly ($p < 0.05$) increases the compliance of patients with treatment in the future: patients begin to understand the main goals of the rehabilitation process, believe in even more new results and high rehabilitation potential.

Taking into account the cost of vascular diseases of the brain and their treatment, losses in the field of production, the state and the patient's finances cause significant economic damage. Thus, when assessing the nature of the work of patients in two groups, there was a statistically significant increase in the number of unemployed citizens by 23.3% and 23% in Group 1 and Group 2, respectively. After the completion of rehabilitation processes, the rates of Return of patients to work were observed in bakholanga, 2 - group patients with an increase in the rate of light cocktail fit by 11.9%, and the rate of fit for heavy cocktail by 9.35. In 1 group patients, this indicator is light cocktail fitness by 1.2%. A 1.2% increase in heavy cocktail was observed. Based on this, rehabilitation measures carried out using remote technologies in the outpatient eTap were noted in 2 patients of gurukh from the ratio to 1 gurukh patients to a positive Tonon.

In assessing the economic material level of patients after 12 months, 20% (14/72) of patients in Group 1 moved from an average financial well-being category to a lower than average ($R < 0.05$). Among the most likely reasons for such dynamics of indicators is a complete cessation or decrease in the possible additional income before a stroke. A large percentage of pre-stroke patients (61%) were forced to change the nature of their work, as they could no longer perform work related to mental activity and emotional stress, as well as the most laborious work.

Patients in Group 1 often sought medical care ($r < 0.05$) to analyze medical records for this period of analysis (6 months). The continuity of the hospital and outpatient phases of rehabilitation of stroke

patients is characterized by a decrease in the number of visits of patients to the Polyclinic ($r < 0.05$) and to the hospital ($R < 0.01$) (Table-4).

Table-4. Seeking medical help at the polyclinic of patients of the 1st and 2nd groups

groups	Number of appeals to the Poly Clinic of patients for a month (M±m)	The number of requests to the Polyclinic of patients for 12 months (M±m)	Confidence level (p)
Group 1	2,6±0,5	2,5±0,5	0,445
Group 2	2,2±0,6	2,6±0,5	0,010

In conclusion, the information obtained not only indicates the good recovery potential of rehabilitation measures, but also additionally confirms the economic feasibility of rehabilitation treatment at the outpatient stage.

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