

Exploring the relationship between post-stroke anxiety and functional performance of stroke patients

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Background

In literature review, the probability of anxiety after stroke was about 4 to 29%. Case-control studies have also shown that stroke patients have a higher chance of developing anxiety and worse functional performance after being discharged from the hospital. Among stroke patients with the same basic conditions, those with improved anxiety will have a better functional prognosis. Usually, the clinical treatment of post-stroke anxiety symptoms will be based on psychotherapy or drugs, but in the past, the relationship between acute post-acute care(PAC) and changes in anxiety symptoms in stroke patients has been rarely discussed.

Materials and Methods

We use retrospective case-control study method, the medical records of cases receiving PAC from January 2015 to December 2016. The acceptance conditions include the cases where the EuroQoL-5D anxiety item score is 2 to 3 in the first evaluation and the care plan is completed. The main interventions in the PAC include high-frequency physical therapy, occupational therapy, and speech therapy. The research variables include basic data and various assessment records: overall functional status, basic daily life functions, swallowing and eating functions, health-related quality of life... etc., a total of 14 assessments. In statistical analysis, we use t-test test for continuous variables and chi-square for category variables.

Results

A total of 39 cases met the recruitment rules, with an average age of 71.2 ± 9.8 years (20 women), and the number of days of hospitalization was 20.9 ± 9.7 days. Nineteen (49%) experienced anxiety improvement after PAC. Next, we analyzed the difference between the anxiety improvement group(IM) (n=19) and the non-improvement group(Non-IM) (n=20). There is no difference in age, gender, cause of stroke, and hospitalization days. A greater proportion of the anxiety-improving group recovered walking function (79% vs 35%, $p=0.006$). In the functional assessments, the anxiety-improving group had more significant improvements in overall functional status ($p=0.003$), self-care ability ($p=0.006$).

Discussion & Conclusion

This study explores the relationship between anxiety and personal characteristics, disease factors, and changes in various functions. Walking ability is clearly related to changes in anxiety. Anxiety improvement is positively correlated with most functional performance. The results of this study can provide a reference for the treatment of anxiety symptoms after stroke in the future.

Variable analysis

Cont. variable	Non-Improvement Group	Improvement Group	p value t-test
N	20	19	
Age	71.85 ± 11.33	70.58 ± 8.09	0.690
Modified Rankin Scale (MRS)*	3.90 ± 0.31	3.68 ± 0.48	0.100
Barthel ADL index*	28.75 ± 15.12	40.26 ± 20.58	0.053
Functional Oral Intake Scale (FOIS)*	5.55 ± 1.50	6.37 ± 1.01	0.055
Mini Nutrition Assessment (MNA)*	17.25 ± 4.94	17.03 ± 4.40	0.882
Mini-Mental State Examination (MMSE)*	20.00 ± 6.42	20.95 ± 5.22	0.617
Concise Chinese Aphasia Test*	10.39 ± 1.86	10.72 ± 1.07	0.504
Length of Hospitalization(Day)	22.55 ± 11.33	19.05 ± 7.41	0.26

Category variable	Non-Improvement Group	Improvement Group	p value Chi-Squ
Causes of Stroke (Infarct, hemorrhage) Index=Infarct	17(85.00%)	17(89.47%)	1
Gender(male, female) Index=female	10(50.00%)	10(52.63%)	0.872
Discharge Destination(home, Institution) Index=home	20(100.00%)	17(89.47%)	0.237
Walking ability in initial(able, unable) Index=able	3(15.00%)	6(31.58%)	0.277
Walking ability in final(able, unable) Index=able	7(35.00%)	15(78.95%)	0.006

Changes in Functional Ability after PAC



*Initial Evaluation