Yavorska Tatyana. Compliance depending on the stress risk level in patients with cerebrovascular diseases. Journal of Education, Health and Sport. 2019;9(4):646-654. eISSN 2391-8306. DOI http://dx.doi.org/10.5281/zenodo.3518409
http://ojs.ukw.edu.pl/index.php/johs/article/view/7599

The journal has had 7 points in Ministry of Science and Higher Education parametric evaluation. Part B item 1223 (26/01/2017).
1223 Journal of Education, Health and Sport eISSN 2391-8306 7

The authors declare that there is no conflict of interests regarding the publication of this paper.
Received: 05.04.2019. Revised: 20.04.2019. Accepted: 30.04.2019.

УДК 616.89-008.48:616-05 : 616.17–008.1:616.831–005.] – 08+615.851+616-084

COMPLIANCE DEPENDING ON THE STRESS RISK LEVEL IN PATIENTS WITH CEREBROVASCULAR DISEASES

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КОМПЛАЄНТНІСТЬ У ПАЦІЄНТІВ З ЦЕРЕБРОВАСКУЛЯРНИМИ ЗАХВОРЮВАННЯМИ ЗАЛЕЖНО РІВНЯ СТРЕСОВОГО РИЗИКУ

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Summary

Compliance plays an important role in the effectiveness of therapy. Open communication with a physician, trust, compliance with medical prescriptions and recommendations, and patient's health activities are important components of recovery or management of the disease.

Materials and methods. At Kharkiv Regional Clinical Hospital - Centre for Emergency Medical Assistance during 2016–2018, 383 patients were observed with cerebrovascular pathology (CVP) at different stages of diseases. The compliance was assessed

by using the questionnaire “Compliance level”. Each group was subdivided into subgroups at the basis of a Boston Social Stress Test.

Results. Patients with moderate stress risk are characterized by a rather high level of compliance, and the people with high stress risk – by a lower one, whereas in patients with upper-high stress risk – by a very low level of compliance. The increasing stress risk is combined with the deterioration of compliance in patients with cerebrovascular pathology in form of increasing emotional and decreasing behavioral component of compliance.

Conclusions. Formation of patients’ active position in the treatment and modification of risk factors in disease progression are important components of a health-centered approach.

Key words: **compliance, cerebrovascular pathology, factors of stress risk, medical and psychological help.**

Topicality. Cerebrovascular pathology (CVP) is a significant medical and medical-psychological problem due to the negative consequences – loss of working capacity, deterioration of quality of life, mental disorders, high lethality of complications [1 – 5]. At the same time, to a large extent, the possibilities of modern therapy allow to control the manifestations of the disease and to prevent the development of threatening and inevitable health conditions, which makes the task of improving patients’ adherence to therapy one of the first priorities.

It is known that compliance in the healing process plays an important role in the effectiveness of therapy. Open communication with the doctor, trust, adherence to medical prescriptions and recommendations, and personal activity in maintaining health are important components of recovery or disease management [6–8].

Different terms are used to describe patients’ behavior during the course of the disease and its treatment – compliance, adherence, concordance, the content of which ranges from simple medical prescribing to active involvement in maintaining and recovery of one’s health.

The most common term is compliance (consent, conformity), which means the patient’s voluntary consent to the prescribed treatment. The manifestations of compliance include: timely medication, in the prescribed dosages and frequency of medication intake, adherence to diet and lifestyle recommendations. Modern concepts of research on adherence to treatment emphasize not only clear fulfillment of medical prescriptions by the patient, but also the activity of the patient in therapy, his interest in the process and results of treatment, maintaining his own health through lifestyle change, modification of risk factors.

Compliance disorders are inherent in patients regardless of age, gender, social status, educational level, due to the complexity of the phenomenon itself and the variety of factors that affect it.

The factors that worsen the compliance include: patient's mental disorders, illness without clear symptoms, side-effects of medicines or treatments, poor patient awareness, complexity of therapy, financial costs, insufficient contact with the doctor.

Compliance problems are generally caused by 3 groups of factors: patient-related, cost of therapy, and complex regimen of treatment.

It is established that adherence to treatment depends on a number of personal, behavioral features of the patient, the internal picture of the disease, the nature of nosology, prognosis [9–11].

In medical practice, more and more research on the development of measures to increase patients' adherence to treatment is being conducted, including improving physician-patient communication, applying a shared decision-making model, discussing difficult situations (bad news, side effects, complications) in therapy, and taking into account patients' personal properties, their psychosocial and financial status when prescribing treatment, and of course resort to lifestyle modification of patients without which it is simply impossible to succeed in a number of diseases (cardiovascular, diabetes and others) [6, 7, 11].

The study of the compliance characteristics of patients with cerebrovascular pathology is essential for clinical practice to implement measures to prevent development and complications of the disease, to effectively manage the symptoms of the disease, and to develop medical and psychological assistance based on a health-focused approach.

The aim is to study the features of compliance in patients with cerebrovascular pathology in relation to the level of stress as an important target for medical and psychological assistance in the structure of a health-centered approach in the treatment process.

Materials and methods. 383 patients with cerebrovascular pathology of various degrees of manifestation (main group - MG) participated in the study conducted at the Kharkiv Regional Clinical Hospital – Center of Emergency Medical Services and Disaster Medicine during 2016-2018:

The main group was subdivided into subgroups, depending on the stage of the CVP:

– group 1 (G1) – 122 patients with cardiovascular pathology (hypertension - 59.8%, coronary heart disease - 40.2%) and presence of cardiovascular risk factors and disease duration from 1 to 3 years;

– group 2 (G2) – 134 patients with clinical manifestations of CVP in the form of transient ischemic attacks (TIA) in medical history with a duration of 6 months up to 2 years;
– group 3 (G3) - 127 people after a cerebral stroke in a period of 6 months up to 1,5 years.

A comparison group (CG) was also formed in the number of 47 conditionally healthy individuals, without risk or clinical manifestations of CVP.

The age range of the respondents ranged from 37 to 68 years. In terms of gender, the sample was distributed as follows: men – 58.5%, women – 41.5%.

The inclusion criteria for the study participants were as follows: high risk or clinically detailed picture of CVP that developed on the background of cardiovascular disease in the form of hypertension and coronary heart disease, verified by clinical-laboratory diagnostics; absence of psychiatric and narcological medical history, cognitive disorders and psychotic states at the time of examination.

The exclusion criteria were the history of mental and behavioral disorders, severe concomitant somatic pathology (decompensation state), marked somatic diseases (except cardiovascular and CVP), the course of which could affect the mental state of patients.

Compliance studies were conducted using the "Compliance Level" Questionnaire (R.V. Kadyrov, O.B. Asrian, S.A. Kovalchuk, 2014), designed for patients with chronic diseases requiring periodic follow-up and long-term treatment, and also checking the level of compliance in healthy individuals [12]. Potential stress load predicts the manifestation of distress in the somatic and mental spheres. Each group was divided into subgroups based on the Boston Social Stress Test (Lifestyle Analysis Test) (by R.V. Kupriyanov, Y.M. Kuzmina, 2012): into subgroups with moderate (MSR), high (HSR), and extremely high stress risk (EHSR). Statistical processing was performed using MS Excel v.8.0.3.

Results and Discussion. The structure of the manifestation of the components and the overall level of compliance in respondents with different levels of stress risk are given in Table 1.

Concerning the general level of compliance, it was found:

– in the subgroups of the MSR, regardless the study group, medium-high levels were determined

– in subgroups with HSR in CG and G1 – medium-high, and in G2 and G3 – medium levels;

– in subgroups with EHSR in CG and G1-3 - medium-low level.

Concerning the social compliance, it is established:

– in subgroups with MSR in CG and G3 - medium-high, in G1 and G2 - medium level of expression;

– in subgroups with HSR in the CG medium-high with a tendency to high, and in G1-3 - medium-high levels;

– in the subgroups with EHSR in the CG - medium-low, in G1-3 - the medium level.

Concerning the emotional compliance, it is determined that:

– in the subgroups with MSR in the CG and G1 - medium, in G2 and G3 - the medium-high levels;

– in the HSR subgroup in CG - medium-high, in G1 - medium-high with a tendency to high, and in G2 and G3 - high levels;

– in the subgroup with EHSR in CG and G1-3 - high manifestation.

Level of behavioral compliance:

– in the subgroup with MSR in the CG and G1-G3 - medium-high levels;

– in subgroup with HSR in CG and G1-3 - medium levels;

– in the subgroup with EHSR in CG – medium, in G1 and G2 – medium-low and G3 – low levels.

To sum up, it can be argued that the increase in stress risk in each group was combined with changes in compliance, namely, with an increase in emotional and a decrease in the behavioral component.

It is important to note that concerning the social, emotional and behavioral compliance, respondents with HSR and especially EHSR have a tendency to dissociate psychological response in the treatment process, namely, decrease in the number of persons with a medium level of competence and, accordingly, their increase in the subgroups with the highest and most low. expressiveness. This clinical-psychological phenomenon can be explained by the actualization of psychological mechanisms of protection in response to the stressful situation – the disease.

Table 2 presents the results of the analysis of the structure of compliance, depending on the level of stress risk in all groups. Medium-high levels of social, behavioral and medium level emotional compliance were found to be inherent in those at moderate stress risk, which formed a high overall commitment to treatment.

Table 1

Component structure of compliance in patients with different levels of stress risk in groups,%

	CG, n=47			G1, n=122			G2, n=134			G3, n=127		
	L	M	H	L	M	H	L	M	H	L	M	H
General level of compliance												
MSR	11,1	38,9	50,0	14,7	38,2	47,1	12,0	44,0	44,0	-	50,0	50,0
HSR	17,4	43,5	39,1	20,6	38,1	41,3	23,4	42,9	33,8	42,4	42,4	37,9
EHSR	50,0	50,0	-	48,0	36,0	16,0	46,9	40,6	12,5	46,7	46,7	15,6
Level of social compliance												
MSR	11,1	44,4	44,4	14,7	47,1	38,2	20,0	44,0	36,0	6,3	50,0	43,8
HSR	21,7	43,5	34,8	22,2	52,4	25,4	33,8	40,3	26,0	28,8	40,9	30,3
EHSR	66,7	33,3	0,0	32,0	48,0	20,0	40,6	43,8	15,6	42,2	31,1	26,7
Level of emotional compliance												
MSR	5,6	61,1	33,3	11,8	50,0	38,2	16,0	40,0	44,0	-	62,5	37,5
HSR	17,4	43,5	39,1	20,6	36,5	42,9	31,2	29,9	39,0	27,3	27,3	45,5
EHSR	33,3	16,7	50,0	28,0	28,0	44,0	31,3	18,8	50,0	26,7	17,8	55,6
Level of behavioral compliance												
MSR	-	61,1	38,9	8,8	50,0	41,2	16,0	40,0	44,0	-	56,3	43,8
HSR	26,1	47,8	26,1	25,4	44,4	30,2	29,9	33,8	36,4	34,8	39,4	25,8
EHSR	33,3	50,0	16,7	44,0	36,0	20,0	50,0	31,3	18,8	60,0	28,9	11,1

Note. MSR is moderate, HSR is high, and EHSR is extremely high risk of stress.

A medium-high level of social and behavioral, high emotional compliance was identified in patients with high stress risk, which indicated a violation of adherence to therapy based on the psycho-emotional component.

At the same time, among patients with extremely high stress risk, the medium-high social level of compliance was combined with high emotional and low behavioral expressions of treatment adherence. This indicated significant changes in the behavior and reactions of patients to the disease and overcoming its consequences, low coping resource, significant emotional involvement in the situation, combined with the feeling of inability to overcome it.

Changes in the manifestation of emotional and behavioral components of compliance can serve as indicators and demonstrations of changes in psycho-emotional (affective disorders) and behavioral spheres (non-adaptive coping strategies).

Table 2

Structure of compliance according to the level of stress risk,%

	Social			Emotional			Behavioral			General		
	L	M	H	L	M	H	L	M	H	L	M	H
MSR	14,0	46,2	39,8	9,7	51,6	38,7	7,5	50,5	41,9	10,8	41,9	47,3
HSR	27,9	44,1	27,9	25,8	32,3	41,9	29,7	39,7	30,6	21,0	41,5	37,6
EHSR	40,7	38,9	20,4	28,7	20,4	50,9	51,9	32,4	15,7	43,5	42,6	13,9

Note. MSR is moderate, HSR is high, and EHSR is extremely high risk of stress.

The high level of social compliance was characterized by the need for communication and building a trusting relationship with the doctor, adherence to recommendations, prescriptions, regimen, discussing problems in therapy directly with a specialist, while for the low level – doubts about the correctness of the prescribed treatment based on the doctor's perception of the patient as a negative one, self-directed, with the confrontation on treatment issues, unwillingness to form long-term constructive relationships with the doctor.

High level of emotional compliance was associated with excessive vulnerability and sensitivity of the patient, actions and decisions made under the influence of emotions, congestion of emotions regarding the negative aspects of the disease, pessimism about the results of therapy, shifting full responsibility for the result to the doctor. The low level of emotional compliance was characterized by emotional coldness, rejection of the possibility of negative consequences of the disease (devaluation of the problem), antipathy for the doctor and treatment.

High levels of behavioral compliance are characterized by consistency and commitment to treating the disease, establishing partnerships with the physician, strict adherence to prescriptions and recommendations, result orientation, and low levels are characterized by passivity, inactivity, avoiding screening situations, refusal to implement therapy scheme or its unapproved changing.

Conclusions. Thus, a fairly high level of compliance is determined in patients with moderate stress risk, in patients with high stress risk it is low, whereas in patients with extremely high risk of stress it is low.

Increasing stress risk is coupled with a decline in compliance in patients with CVD in the form of increased emotional and reduced behavioral compliance.

Patients with high and extremely high stress risk have a tendency to dissociate the form of psychological response to disease and treatment through the actualization of psychological mechanisms of protection and the inclusion of coping strategies focusing of which (on decision or avoidance) shapes the level of adaptation to the situation in the short and long term perspective.

The study of compliance features in patients with chronic progressive pathology, which can have significant adverse effects on the patient's physical and mental health, is an important and promising area of medical and psychological care in general somatic practice. The formation of adherence to therapy, the active position of the patient in the treatment process and the modification of risk factors for the progression of diseases are important components of a health-centered approach.

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