

# Influence of Psychovegetative Symptoms on the Neurological and Therapeutic patients' Quality of Life

VYACHESLAV A. KUTASHOV<sup>1</sup>, ALEXANDER P. SKOROKHODOV<sup>2</sup>, SERGEY N. PODVIGIN<sup>3</sup>, OLEG YU. SHIRYAEV<sup>4</sup>, ELENA A. BALAKIREVA<sup>5</sup>, IGOR S. PROTASOV<sup>6</sup>

<sup>1,2</sup>Professor, Chief of Neurology Department, Voronezh State Medical University named after N.N. Burdenko, Voronezh, Russia

<sup>3</sup>Associate Professor of Psychiatry and Narcology, Voronezh State Medical University named after N.N. Burdenko, Voronezh, Russia

<sup>4</sup>Chief of Psychiatry and Narcology Department, Voronezh State Medical University named after N.N. Burdenko, Voronezh, Russia

<sup>5</sup>Chief of Pediatrics Department, Belgorod National Research University, Belgorod, Russia

<sup>6</sup>Associate Professor, of Neurology, Voronezh State Medical University named after N.N. Burdenko, Voronezh, Russia

Correspondence to Dr. Igor S. Protasov, email: protasovis@mail.ru, cell: +79081398562.

## ABSTRACT

**Aim:** To determine the effect of psychovegetative symptoms on QOL in neurological and therapeutic patients and the profile of the SF-36 test.

**Methods:** The severity on a ten-point scale of 49 symptoms of the developed questionnaire, which was based on the signs of hysterical syndrome, was compared with the SF-36 test scores in 120 neurological and therapeutic patients. Statistical data processing was carried out using the paired T-Student's criterion and analysis of variance using the Biostat software package. The difference was considered significant at  $P \leq 0.05$ ,  $P \leq 0.01$  and  $P \leq 0.001$ .

**Results:** There is a negative correlation of psychovegetative symptoms with the SF-36 test scales: physical functioning, pain, general health, vitality, social functioning and mental health. Observed a significant increase in the test profile on the general health scale ( $P=0.004$ ) in patients using the formulation «I have a disease». The symptom «trembling and chills» was significantly correlated with all scales except for the PH scale.

**Conclusion:** Thus, in the assessment of therapeutic and rehabilitation measures in therapeutic patients using the SF-36 test, it should be borne in mind that an increase in the profile on the scales: «Role physical functioning» and «Role emotional functioning». The «shivering or chilling» symptom is the somatic equivalent of anxiety and depression, and its dynamics can serve as a clinical guideline in reflecting the systemic effects of treatment.

**Keywords:** Quality of life, psychovegetative symptoms, treatment, rehabilitation.

## INTRODUCTION

Improving the quality of life (QOL) is one of the most important tasks in treatment<sup>1-3</sup>. Improvement of QOL is topical at all stages of medical care in the form of a prognostic sign, the basis of rehabilitation programs and, of course, the criterion of the effectiveness of the treatment<sup>4</sup>. Defining the concept of «quality of life», we are talking about an integral characteristic of the physical, psychological, emotional and social functioning of the patient, based on his subjective perception, that is, the state of the «I» complex as the highest form of reflection and integration of external and internal signals<sup>5-7</sup>. In clinical medicine, nonspecific complaints such as weakness, exercise intolerance, mood changes and others, which subtly reflect the systemic effects of treatment, are of particular importance<sup>8, 9</sup>. An individual reaction to a damaging factor is largely due to the psyche, especially the presence of hysteria, in which the similarity of symptoms with the clinical picture of other diseases even gave her the name of the «great simulant»<sup>10</sup>.

## MATERIALS AND METHODS

The severity on a ten-point scale of 49 symptoms of the developed questionnaire, which was based on the signs of hysterical syndrome (Briquet's syndrome), was compared with the SF-36 test scores in 120 neurological and therapeutic patients: 22 – with hypertensive encephalopathy (HE), 20 – bronchial asthma (BA), 20 – peptic ulcer (PUD), 19 – rheumatoid arthritis (RA), 20 – diabetes mellitus (DM) and 19 – angina pectoris (AP).

Statistical data processing was carried out using the paired T-Student's criterion and analysis of variance using the Biostat software package. The difference was considered significant at  $P \leq 0.05$  – \*,  $P \leq 0.01$  – \*\* and  $P \leq 0.001$  – \*\*\*.

## RESULTS

The results of statistical processing, shown in Table 1, revealed a negative correlation of psychovegetative symptoms with the SF-36 test scales: physical functioning (PF), pain (P), general health (GH), vitality (V), social functioning (SF) and mental health (MH).

Of the many psychovegetative symptoms negatively associated with scales reflecting both the physical (PF, P, GH) and psychological (V, SF) health components, only the symptom «shivering and chills» was significantly correlated with all scales except the PH scale. The absence of this symptom in the list of negatively related symptoms with the PH scale is quite natural, given that shivering and chills are the somatic (vegetative) equivalent of an anxiety-depressive reaction. And among the symptoms negatively associated with the PH scale, except anxiety-depressive symptoms (fear and pessimism), a significant negative correlation was found with sleep disturbance, tearfulness, irritability and memory impairment. A list of symptoms that have a positive correlation with the SF-36 test scales is presented in Tables 2 and 3

Table 1: Negative correlation of psychovegetative symptoms and SF-36 test scales

Scale of test SF-36	Symptom	P	
PF	Abdominal pain	0,011*	
	Dizziness	0,003**	
	Shivering or chills	<0,001***	
	Disturbances	0,031*	
	Unsteadiness of gait	0,005**	
	General malaise	0,008**	
	Tearfulness	0,048*	
	Sweating	<0,001***	
	Cold limbs	0,003**	
	Palpitations	0,033*	
	Weakness in the limbs	0,005**	
	Fear	0,026*	
	Memory impairment	0,008**	
	P	Angina pectoris	0,032*
		Dizziness	0,005**
		Shivering or chills	<0,001***
		Interruptions in the work of the heart	0,014*
		Tearfulness	0,001***
Irritability		0,002**	
Decreased mood		0,026*	
Fear		0,017*	
Visual impairment		<0,001***	
Memory impairment		<0,001***	
GH		Pain in different parts of the body	0,044*
		Pain in the limbs	0,036*
		Shivering or chills	<0,001***
		Memory impairment	0,003**
	Impaired consciousness	0,003**	
	General malaise	0,018*	
	Sweating	0,008**	
	Weakness in the limbs	0,039*	
	Fear	0,024*	
	Convulsions	0,013*	
V	Angina pectoris	0,036*	
	Pain in the different parts of the body	0,004**	
	Bloating	0,042*	
	Dizziness	0,023*	
	Shivering or chills	0,033*	
	General malaise	0,009**	
	Pessimism	0,007**	
	Tearfulness	0,007**	
	Sweating	0,015*	
	Irritability	0,004**	
	Decreased mood	0,016*	
	Fear	0,011*	
	Memory impairment	0,003**	
	Physical and mental fatigue	0,013*	
SF	Angina pectoris	0,017*	
	Shivering or chills	0,028*	
MH	Sleep disturbance	0,043*	
	Pessimism	0,012*	
	Tearfulness	0,046*	
	Irritability	0,044*	
	Fear	0,004**	
Memory impairment	0,003**		

Table 2: Positive correlation of psychovegetative symptoms and SF-36 test scales

Scale of test SF-36	Symptom	P
RPF (role-based physical functioning)	arthralgia	0,020*
	burning sensation in the anus	0,003**
	constipation	0,013*
	fainting	0,018*
	sexual weakness	0,033*
	diarrhea	0,048*
PEF (role-based emotional functioning)	angina pectoris	0,017*
	burning sensation in the anus	0,025*

Table 3: Positive correlation of psychovegetative symptoms and scales of the SF-36 test at the level of the trend towards reliability

Scale of test SF-36	Symptom	P
PF	hearing impairment	0,056
RPF	pain in the limbs	0,092
	impaired consciousness	0,065
	waiting for death	0,071
	loss of appetite	0,093
	irritability	0,089
REF	physical and mental fatigue	0,065
	constipation	0,056
	fainting	0,077

**DISCUSSION**

The multidirectional correlation between individual symptoms and test scores for QOL research should be explained by their significance for the «I». In the case of the expression of the symptom and their high significance in the profile of the SF-36 test, there should be low QOL values. On the contrary, if the symptom has less importance and used as a protective reaction or the formation on its basis of the rental units, this must be reflected in the positive correlation and high scores SF-36. Additional argumentation of this point of view was obtained in the study of QOL in the same group of patients, differing in the use of linguistic turns, which show the degree of involvement of the structure «I» in the pathological process: «I am sick» and «I have a disease» The ratio of patients in this case was 74 and 46, respectively. The results of the variance analysis showed a significant increase in the profile of the test on the GH scale (P=0.004) in those patients who tend to use the phrase «I have a disease» (48.08±13.00 versus 34.38±12.96 points of the SF-36 test in persons using the phrase «I am sick»), which indicates a better quality of their life and can be explained by a greater distance of the «I» from internal pathological signals.

**CONCLUSION**

Thus, in the assessment of therapeutic and rehabilitation measures in therapeutic patients using the SF-36 test, it should be borne in mind that an increase in the profile on the scales: «Role physical functioning» and «Role emotional functioning» is associated with the setting reaction of patients in relation to symptoms lying in the basis of these scales, which implies making an appropriate amendment to their interpretation. The symptom «shivering

or chills» with all scales has a negative correlation and, given that it is the somatic equivalent of anxiety and depression, in working with therapeutic patients it is necessary to take into account the influence of the corresponding emotional background of poor quality of life, and the dynamics of the symptom «shivering or chills» can serve clinical guideline in reflecting the systemic effects of treatment.

## REFERENCES

1. Zakharov O.P., Kutashov V.A., Ulyanova O.V. Anxiety-depressive disorders in patients with stroke in the cerebellum. Own clinical observation. *Bulletin of Neurology, Psychiatry and Neurosurgery*. 2018; 3: 24–27.
2. Kutashov V.A., Verbenko V.A., Remizova E.A., Zakharov O.P., Zaika V.G., Boyko E.O. Clinical characteristics of affective disorders in patients with ischemic stroke. *Tavrishesky journal of psychiatry*. 2018; 1 (82): 47–53.
3. Ulyanova O.V., Kutashov V.A. Mental disorders in patients with multiple sclerosis. *Journal of Neurology and Psychiatry*. S.S. Korsakov. 2018; 118 (8): 147.
4. Kutashov V.A. Features of clinic and social problems in patients with affective disorders of different age groups. *Bulletin of Neurology, Psychiatry and Neurosurgery*. 2018; 8: 3–6.
5. Dummy L.S., Kutashov V.A., Ulyanova O.V. Clinical and psychopathological features of patients with demyelinating diseases. *Bulletin of Neurology, Psychiatry and Neurosurgery*. 2017; 7: 54–57.
6. Samsonov A.S., Kutashov V.A., Budnevsky A.V., Esaulenko I.E. Intellectualization techniques in prevention and prediction of psychosomatic disorders in patients of the general medical network. *Cardiovascular therapy and prevention*. 2016; 1: 139.
7. Budnevsky A.V., Ulyanova O.V., Zakharov O.P., Khabarova T.Yu., Kutashov V.A. Application of classification-prognostic modeling for identification and analysis of the significance of individual risk factors for the development of nervous mental disorders. *Bulletin of Neurology, Psychiatry and Neurosurgery*. 2016; 4: 17–22.
8. Kutashov V.A. Relationship of psychophysiological factors with disorders of the vegetative nervous system. *Bulletin of Neurology, Psychiatry and Neurosurgery*. 2016; 3: 63–66.
9. Alekseeva V.Yu. Stages of medical rehabilitation of patients with acne. *Modern look. Universe of the Brain*. 2020; 2 (5): 6–8.
10. Kutashov V.A., Sakharov I.E., Kutashova L.A., Chemordakov I.A.. *Neurology in clinical examples, under total ed.* Kutashov V.A., Moscow, 2019.