

## PSYCHOSOMATIC ASPECTS AND TREATMENT OF GASTROINTESTINAL PATHOLOGY

Marina S. Artemieva, Vladimir Ivanovich Kuznetsov, Nikolay V. Sturov, Ivan S. Manyakin,  
Elena A. Basova & D. Shumeyko

*Peoples' Friendship University of Russia (RUDN University), Moscow, Russia*

### SUMMARY

*The frequency of instances of diseases of the digestive system has increased in recent years. The pattern of diseases changes: the pathology of the upper gastrointestinal tract (gastroesophageal reflux disease, gastritis, duodenitis) is the most prevalent. Gastroesophageal reflux disease (GERD) is one of the most common, recurrent and comorbid gastroenterological diseases, with a prevalence of 30% in Western Europe and 10% in East Asia in the adult population. Evaluation of quality of life (based on the SF 36 questionnaire and Hamilton's scale of Depression and anxiety) is widespread and can aid in the choice of effective treatment for patients with combined pathology. We analyzed SF-36 questionnaires of patients with GERD only and GERD in combination with thyroid pathology (hypothyroidism). Patients were divided into two groups: the first group - patients with GERD (20 persons); the second group - patients with GERD and hypothyroidism (20 persons). The quality of life of patients from the second group was revealed to be low for such indicators as "physical and mental components of health", "social functioning". The intensity of pain in both of the two groups significantly limits daily activities of patients. The physical component of health in patients with GERD is 48.82%, and in patients with comorbidity - 39.21% ( $p \leq 0.05$ ). A significant difference in the mental health component was observed: in the first group - 39.7%, and in the second group - 30.18% ( $p \leq 0.05$ ). Patients with GERD suffer not only symptoms associated with erosive-ulcerative, catarrhal and/or functional disorders of the distal esophagus, but also neurotic disorders. Depression, memory impairment, attention disorders are more common. Thyroid dysfunction manifests with the psychoendocrine syndrome (depressive and anxiety-phobic disorders), therefore the mental health component of the quality of life of patients with GERD and hypothyroidism decreases. Patients with combined pathology of GERD and thyroid dysfunction should be examined not only by a general practitioner, gastroenterologist, endocrinologist, cardiologist, but also by a psychotherapist because of pronounced somatogenic mental disorders. Treatment with antacids and drugs such as omeprazole, Cerucal, were less effective than when combined with psychotropic drugs: Sertraline 25-30 mg and hydroxyzine 12.5-25 mg per day.*

**Key words:** *symptomatic questionnaire - gastrointestinal pathology -gastroesophageal reflux disease - mental disorders*

\* \* \* \* \*

### INTRODUCTION

The modern pace of life, which the people of the metropolis are forced to adhere to, is accompanied by intense psychoemotional overloads, which lead to a decrease in the adaptive capabilities of the body. Back in the nineteenth century, there was such a thing as "wear-out syndrome", which, as it was believed, were subject to the inhabitants of industrial England. The symptoms included increased fatigue, a feeling of global tired of life, irritability. The consequence of the impact of a combination of different factors of the urban environment on a person is a state of urban stress, that is, a social-behavioral complex that manifests itself at the affective, conative and cognitive levels (State Report 2018). This can significantly affect the quality of life of an urban resident, as well as contribute to an increase in morbidity and an increase in the number of comorbid patients in the metropolis.

The relevance of the study was determined by the high prevalence of mental disorders and a decrease in the quality of life (QOL) in comorbid diseases of the gastrointestinal tract (GI) and hypothyroidism (the frequency of this combination of diseases is about 30%). According to the forecasts of WHO experts, in

the 21<sup>st</sup> century, diseases of the digestive and endocrine systems will occupy one of the leading places (www.rosminzdrav 2016).

### SUBJECTS AND METHODS

The combination of pathology of the stomach and thyroid gland aggravates the course of the disease, contributes to multiple organ failure, increases the cost of diagnosis and treatment of diseases. In biomedical research, the quality of life is considered as an integral characteristic of physical, psychological, emotional and social functioning, based on the subjective perception of the respondent (Yaglova & Yaglov 2012). The interest in studying the quality of life is caused by the fact that an objective reduction in pathological changes (data from physical, laboratory and instrumental methods of research) is not necessarily accompanied by an improvement in the patient's well-being and that the result of treatment should be patient satisfaction. Quality of life indicators (the SF-36 questionnaire and the Hamilton scale of Depression and Anxiety), the definition of which is recognized as a priority worldwide, can serve as one of the criteria for deciding on the choice of treatment for combined pathology.

The SF-36 questionnaire includes 36 questions, which are grouped into eight scales. Of these, four scales allow us to characterize the physical component of health: physical functioning (PF), role-physical functioning (RP), bodily pain (BP), and general health (GH). The other four scales characterize the psychological component of patients' health: mental health (MH), role-emotional (RE), social functioning (SF), and vital activity (VT). The indicators of each scale range from 0 to 100, with 100 points corresponding to the greatest well-being, and 0 points indicate the maximum restriction of the patient's vital activity (Ware et al. 1994). The SF-36 questionnaire allows a comprehensive assessment of various components of the patient's physical and psychoemotional state, does not require large material costs, is simple and affordable to use and calculate data (Khalitov 2015).

## RESULTS

We analyzed the questionnaires of patients (questionnaire SF-36) with gastric and/or duodenal ulcer (2 or more ulcers) in combination with thyroid pathology (hypothyroidism). The patients were divided into 2 groups: group 1 – patients with peptic ulcer disease (20 people); group 2 – patients with peptic ulcer disease and hypothyroidism (20 people). The quality of life of patients with peptic ulcer disease in combination with hypothyroidism is low. Assessing the physical component of health, it was found that in patients of the first group it is 51.36% and in the second group - 40.8, mainly due to the general state of health (GH) ( $P < 0.05$ ), this is due to the symptoms of hypothyroidism: impaired protein metabolism, lipids, slowing down the utilization of carbohydrates, weight gain, a tendency to bradycardia, pain caused by biliary dyskinesia (Table 1).

The mental health scale allows you to study the mood of patients during the month before the examination, to determine the presence of depression, anxiety, and positive emotions. The decrease in indicators on this scale indicates psychological distress, which was typical for all groups of patients, but the lowest indicators were also shown by patients with combined pathology. The psychological component in the first group was 41.22% and in the second – 30.75% ( $P < 0.05$ ), as well as a high score on the HAMA scale. In the second group, the lowest indicator was demonstrated on the scale of role functioning due to role-emotional (RE). A low percentage indicates that the nature of the course of the pathological process affects the patient's personality, emotional experiences, and adaptive abilities to function in society and family, which is most likely associated with concomitant depressive and borderline personality disorders in these patients. The mental component of QOL in somatic patients is diverse.

**Table 1.** Quality of life indicators

Scales	Ulcer (n=20)	Ulcer+hypo(n=20)
SF-36	Me (Q1-Q3)	Me (Q1-Q3)
PF	85.00 (75.00-92.50)	52.50 (30-80)
RF	75.00 (62.50-100.00)	50.00 (0-100)
BP	74.00 (66.00-100.00)	72.00 (36-100)
GH	71.00 (50.00-82.50)	31.00 (10-55)
VT	55.00 (45.00-70.00)	52.50 (20-65)
SF	81.25 (75.00-100.00)	56.25 (31.25-75.00)
RE	66.67 (33.00-100.00)	16.65 (0.00-33.33)
MH	60.00 (42.00-66.00)	38.00 (16.00-52.00)

Peptic ulcer disease is accompanied by irritability, insomnia, emotional instability, at times – hypochondriacism, carcinophobia, exhaustion of mental functions. With hypothyroidism, the signs of mental exhaustion are quickly joined by the manifestation of the psycho-organic syndrome (decreased memory, intelligence, attention). Such patients are characterized by grouchiness, hypochondriacism, stereotypical behavior, and decreased intelligence. Given the pronounced somatogenic mental disorders of patients with combined pathology of peptic ulcer disease and hypothyroidism, patients should be observed not only by a general practitioner, gastroenterologist, endocrinologist, cardiologist, but also by a psychotherapist.

According to the results of the assessment of correlations between the scales in patients with peptic ulcer disease, there was a weak correlation between the indicators of physical and psychological components of health, only the role functioning due to the physical state (RP) and the role-emotional (RE) showed a significant correlation (0.4). The correlation between the psychological and physical components of health in patients with peptic ulcer disease and hypothyroidism was more rigid on all scales, which indicates a more significant influence of the combined pathology on the psychological component of health (Table 2, 3).

With the severity of mental disorders in the clinical picture of peptic ulcer disease in the form of anxiety, depression and hypochondria, patients are prescribed sulpiride (100-200 mg in the morning and afternoon), and fluvoxamine 50 mg at night, if necessary-amitriptyline (at a dose of 25 mg at night). Drugs of these groups significantly inhibit gastric secretion, contribute to the reduction of dyspeptic disorders, eliminate anxiety. By inhibiting the affective component of pain, they increase the body's tolerance to repeated exposure to prolonged pain stimuli. Switching off from the inevitable vicious circle (pain–anxiety–pain or anxiety–pain–anxiety) one component and increasing physiological endurance reduces the severity of the course of somatic disease. In people with increased anxiety, pain sensitivity is significantly increased. That is why, by significantly reducing anxiety in patients with peptic ulcer disease, you can significantly reduce

**Table 2.** Correlations between indicators of quality of life of patients with peptic ulcer disease

	PF	RP	BP	GH	VT	SF	RE	MH
PF	1.00	0.41	0.49	-0.27	-0.27	-0.24	0.20	-0.27
RP	0.41	1.00	0.33	0.23	0.01	0.21	0.40	0.17
BP	0.49	0.33	1.00	-0.06	0.30	-0.25	-0.04	-0.24
GH	-0.27	0.23	-0.06	1.00	0.70	0.80	0.35	0.73
VT	-0.27	0.01	0.30	0.70	1.00	0.64	0.44	0.85
SF	-0.24	0.21	-0.25	0.80	0.64	1.00	0.36	0.78
RE	0.20	0.40	-0.04	0.35	0.44	0.36	1.00	0.49
MH	-0.27	0.17	-0.24	0.73	0.85	0.78	0.49	1.00

**Table 3.** Correlations between the quality of life of patients with peptic ulcer disease and hypothyroidism

	PF	RP	BP	GH	VT	SF	RE	MH
PF	1.00	0.85	0.78	0.89	0.77	0.75	0.62	0.83
RP	0.85	1.00	0.94	0.86	0.75	0.74	0.76	0.72
BP	0.78	0.94	1.00	0.92	0.82	0.86	0.83	0.75
GH	0.89	0.86	0.92	1.00	0.88	0.90	0.83	0.90
VT	0.77	0.75	0.82	0.88	1.00	0.77	0.69	0.82
SF	0.75	0.74	0.86	0.90	0.77	1.00	0.71	0.69
RE	0.62	0.76	0.83	0.83	0.69	0.71	1.00	0.84
MH	0.83	0.72	0.75	0.90	0.82	0.69	0.84	1.00

pain sensitivity (up to its complete absence). In addition, by eliminating anxiety, fear and reducing affective tension, these drugs block the excess production of catecholamines in stressful situations, which increases tolerance to the additional effects of secondary stressors. In the asthenic variant of peptic ulcer disease, nootropic drugs are added to the treatment regimen. Differentiated treatment of mental disorders serves as a prevention of exacerbations of peptic ulcer disease.

## CONCLUSION

According to the results, the presence of a combined pathology of the thyroid gland and the gastrointestinal tract significantly affected both the physical and psychological components of health on the SF-36 scale in the studied patients. Also, when studying the correlations, it turned out that it is the presence of the comorbid pathology itself, and not any concomitant conditions, that makes the most significant contribution to the reduction of the psychological component of patients' health.

### Correspondence:

Marina S. Artemieva, MD, PhD  
 Department of Psychiatry and Medical Psychology,  
 Peoples' Friendship University of Russia (RUDN University)  
 Moscow, Russia  
 E-mail: msartemieva@mail.ru

**Acknowledgements:** None.

**Conflict of interest:** None to declare.

**Contribution of individual authors:**

All authors contributed to writing of this paper equally.

## References

1. <https://www.rosminzdrav.ru/ministry/61/22/stranitsa-979/statisticheskie-i-informatsionnye-materialy/statisticheskiy-sbornik-2016-god>
2. Khalitova Rya: Chemical factor in the development of endocrine diseases. *Hygiene and sanitation* 2015; 94:12-16
3. State Report - M: On the state of sanitary and epidemiological welfare of the population in the Russian Federation in 2017: Federal Service for Supervision of Consumer Rights Protection and Human Welfare, 2018; p286
4. Ware JE, Kosinski M, Keller SD: SF-36 Physical and Mental Health Summary Scales: A User is Manua. /The Health Institute, New England Medical Center. Boston, Mass, 1994
5. Yaglova NV & Yaglov VV: Endocrine disruptors - a new direction of research in endocrinology. *Bulletin of the Russian Academy of Medical Science* 2012; 3:56-61