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COMPLIANCE AS A COMPONENT OF INDICATIVE PLANNING OF THERAPEUTIC AND PROPHYLACTIC MEASURES FOR GENERALIZED PARODONTAL DISEASES ASSOCIATED WITH ANOREXIA NERVOSA

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Abstract

The aim of research was to verify the format of personal assessment of the level of compliance for planning treatment of GPD in patients with anorexia nervosa. Clinical and radiological methods, medical and psychological methods, questioning were used. The object was 58 patients with GPD, assosiated with AN, restrictive form, 18–25 years; and 62 patients with GPD without anorexia. The control group was represented by 30 practically healthy people with normal weight and without pathology on the part of dental status. In the result of our research the overwhelming number of patients in the main group has a low level of all components of compliance. In patients of the comparative group the indicators of low compliance were noted much less frequently, while the average and high indicators of the level of the main components of compliance were much more frequent. The results of the evaluation of the compliance level in practically healthy people without dental diseases established a low level of compliance in the overwhelming number of those examined. The low level of all components of compliance in patients with GPD, associated with AN, suggests that complex treatment will be quite difficult and will require time and extensive erudition by a doctor with the obligatory inclusion patient's family, psychiatrist and neuropathologist. This group can undoubtedly be at risk group in order to achieve a good, sustainable predictable outcome of the treatment of GPD. We believe that the doctor will face a number of problems and, including the patient's underestimation of the severity of the disease, most likely neglect of the possible consequences and complications and recommendations of the doctor. Assessing the level of compliance in patients with an GPD associated with AN is not just an attitude towards treatment. Behind this concept lies a peculiar picture of one's attitude to one's health, expressed in a qualitatively new peculiar pattern of the behavior of activity and life activity in general.

Keywords: anorexia nervosa, generalized parodontal diseases, motivation, social compliance, emotional compliance, behavioral compliance.

Relevance of the research. Generalized diseases of parodontal tissues, including generalized parodontitis, occupy one of the leading places in the structure of human diseases, giving away only cardiovascular and neoplastic processes. According to WHO the prevalence of generalized parodontal disease (GPD) is 60-90% [1, 2]. In recent years there has been a persistent trend towards the disappearance of gender geographic and territorial preferences in these diseases. The noticeable "rejuvenation" of the GPD is noteworthy. These circumstances are of serious concern, as state, scientific and medical institutions. The lack of a clear understanding of the causal relationships of the development of GPD significantly complicates the implementation of effective prevention and treatment of these diseases, makes it difficult to obtain a stable remission of the pathological process, complicates the choice of adequate and reasonable pharmacotherapy and other components of the complex treatment of GPD.

The key role of the microbiome and microbial communities of the biofilms of the oral cavity in the etiopathogenesis of GPD and its reflexion on the development of many chronic diseases of the heart, kidneys, joints, eyes, etc. was noted.

Emphasizing the importance in the etiopathogenesis of the GPD general immunological reactivity, local immunity, nonspecific protection factors and genetic determinism, researchers lead general somatic diseases

a rather significant place. Among which, special attention is paid to diseases of the endocrine, cardiovascular and nervous systems, pathology of the gastrointestinal tract and the musculoskeletal system, seeing similar causal relationships and common reference points for GPD and these diseases. This circumstance allowed them to declare the concept of comorbidity, association and affiliation of a number of somatic diseases and GPD [3].

Thus, some researchers point to the affiliation of generalized parodontitis (GP) with rheumatoid arthritis, diabetes, diseases of the gastrointestinal tract, thyroid and parathyroid glands, and pubertal and menopausal diseases, suggesting specific approaches for the treatment of GP for this category of patients [3, 4].

Unfortunately, in the literature there are only fragmentary statements about the possible comorbidity and associativity of anorexia nervosa (AN) and GPD [5, 6, 7]. We believe that this is a serious flaw. AN, characterized by eating disorders, is widespread among both young women and men, and is accompanied by serious changes in the endocrine system, including the axis of the hypothalamus - pituitary - sex glands - thyroid, immune, cardiovascular and other systems. AN is accompanied by a pathological manifestation on the skin, mucous membranes [6, 7, 8]. Serious changes undergo the function of the liver, pancreas, kidneys. Irreversible bone mass disorders are noted with a decrease in bone mineral density, marked osteoporosis. Visible major changes were noted in lipid, protein and fat metabolism [3, 5]. However, manifestations of protein and energy deficiency still come to the fore [8]. The problem of deliberate starvation was not as widespread as it is today. The highest incidence rates are noted in the USA, UK and countries of Western Europe [8]. There is an increase in AN in Ukraine [9].

AN is caused not only persistent social and labor maladjustment, but also represents an immediate threat to the life of the patient. In recent years, there has been an early age, an acceleration of the rate of development of the actual anorexic symptoms [10]. Thus, it is not difficult to notice that changes in the body of patients with AN can be a fertile the foundation for the occurrence of GPD. One of the most difficult issues is the problem of planning the stages of complex treatment of GPD in patients with AN. The complexity of carrying out adequate treatment-and-prophylactic measures in cases of GPD in patients with NA is, to a certain extent, due to the low motivational component to any treatment. At the same time, a satisfactory and stable result of therapy, as is known, is largely determined by the patient's desire to achieve it. In the literature, this issue has received little attention, although in fairness, there are publications that note the importance of motivating the patient to the need for a treatment [12, 13, 14, 15]. However, analyzing their statements that certain researchers are investing and how they assess the level of motivation for the treatment of GPD [11]. We believe that the motivational component is only a small fragment of the concept of "disease management". In our opinion, it is important to take a look wider at the problem of cooperation between patient and doctor while treating GPD in patients with AN, applying a broader concept such as compliance. However, in the literature we have not met the works devoted to this aspect of the problem.

Purpose of the research. In this regard, the purpose of this research was to verify the format of a personal assessment of the level of compliance for planning treatment of generalized parodontal diseases in patients with anorexia nervosa.

Materials and methods of research. Methods of clinical and radiological assessment of parodontal disease, medical and psychological evaluation, including questionnaires, were used to achieve this goal.

All examined patients had AN with a restrictive form. Under our observation there were no patients with AN purificatory form.

All patients with AN were on an ambulatory and stationary treatment at the psychoneurological department of Kiev Clinical Hospital on railway transport №1

«Ukrzaliznytsya» (head of the department - O.V. Moskalenko).

The subject of our research was 58 patients with GPD, assosiated with AN, 18-25 years old, who were in the main group (M), and 30 patients with GPD without symptoms of anorexia of the same age, who made the comparison group (C). Among the main group (M) in 28 patients generalized parodontitis (GP) of the primary-I degree, chronic course (subgroup M_1) was diagnosed, and 30 patients with AN were diagnosed with generalized chronic catarrhal gingivitis (GCCG) (subgroup M_2). The comparison group (C) included 62 patients with GPD without signs of a violation of eating behavior of the same age: 30 persons from the GP, primary-I degree, chronic course (subgroup C_1) and 32 persons with GCCG (subgroup C_2).

The control group was represented by 30 practically healthy people with normal weight, without disturbing dietary habits and without clinical signs of parodontal disease.

Among the proposed methods for assessing the level of compliance, we chose the method proposed by R.V. Kadyrov and authors. (2014) [14]. Other previously proposed methods of assessments of personality compliance were not sufficiently valid and reliable, required significant time spent on the survey, and did not fully allow to predict the behavioral response of the patient in the planning of treatment.

For the first time, we proposed a method for verifying the level of competence assessment for planning and predicting the results of treatment of GPD in patients with AN, which was presented in three components and included an assessment of social, emotional and behavioral complications:

- social compliance (S) - the desire to meet the appointment of a doctor due to the orientation to social approval;
- emotional compliance (E) - the tendency to follow the medical recommendations due to increased vulnerability and sensitivity;
- behavioral compliance (B) - the desire to strictly adhere to medical recommendations, aimed at overcoming the disease, perceiving it as an obstacle.

We developed a questionnaire (open form), which included 55 questions for which the patient answers:

"Always", "Sometimes" or "Never". Questions were formulated on a base of the social, emotional and behavioral characteristics of the individual. After the patient evaluated her- or himself, we counted the points for 3 variants of manifestation of compliant behavior. To do this we used the "Key", which was used to calculate scores for each type of compliant behavior. For each positive answer according to the «Key» there were 2 points, for each negative answer - 0 points, for the unanswered answer - 1 point. The total number of points characterizes the level of social, emotional, behavioral and general compliance. The higher these indicators were, so the stronger, more stable and deeper compliant personality was.

The total score has been calculated for each of the parameters:

from 0-15 were considered as an indeterminate indicator of compliant behavior (S, E, B);

from 16 to 29 points - the average indicator of compliant behavior;

from 30 to 40 points - a significant indicator of compliance.

General compliance (GC) is represented by the sum of all indicators of compliant behavior and expressed as follows:

0-40 - low level of overall compliance.

41-80 - the average level of overall compliance.

81-110 - high level of compliance.

All mathematical calculations were automated using a computer software package for statistical analysis of data analysis SPSS version 11.5 for Windows.

The high scores obtained during the diagnosis using the questionnaire indicated a high level of compliance and a specific attitude of the person to the treatment proposed by the physician. For such a person is characterized by the desire to enter into a confidential relationship with a doctor, to listen and to take into account his opinion. He is worried about the impression he makes on others, in particular on the doctor, who is perceived by him as a significant person. In this regard, it seeks to unquestioningly follow the recommendations of the doctor, as well as consult with him about the concerns and doubts that arise in the process of treatment. Such a patient is often worried that he is capable of harnessing someone with unnecessary worries due to his illness. He is vulnerable, impulsive, sensitive. He is ready to promote the process of treatment, as it acquires true significance for him.

Results of own research.

In the result of the conducted research in the vast majority of patients in the main group (M_1, M_2 subgroups) - in patients with GP, primary-I degree, chronic course and GCCG, associated with AN, was established a low level of all components of compliance (table 1, table 2).

Table 1

The level of compliance in patients with generalized parodontitis, primary-I degree, chronic course, associated with anorexia nervosa

Level	Compliance			
	Social	Emotional	Behavioral	General
low	70%	65%	40%	60%
average	24%	25%	32,5%	20%
high	6%	10%	27,5%	20%

Table 2

The level of compliance in patients with generalized chronic catarrhal gingivitis assosiaed with anorexia nervosa

Level	Compliance			
	Social	Emotional	Behavioral	General
low	75%	61%	65%	70%
average	25%	29%	24%	20%
high	0%	10%	11%	10%

In the analysis of the main components of compliance in the comparative group (C_1, C_2) - in patients with GP, primary-I degree, chronic course and GCCG without AN, a low compliance rate was noted less often, while the average and high levels of the main components of compliance met much more often (table 3, table 4).

Table 3

The level of compliance in patients with generalized periodontitis, primary-I degree, chronic course, not assosiated with anorexia nervosa

Level	Compliance			
	Social	Emotional	Behavioral	General
low	10%	3,3%	10,1%	0%
average	76%	46,6%	73,3%	63,3%
high	14%	50,1%	16,6%	36,6%

Table 4

The level of compliance in patients with generalized chronic catarrhal gingivitis, not assosiated with anorexia nervosa

Level	Compliance			
	Social	Emotional	Behavioral	General
low	15%	3,3%	0%	0%
average	45%	73,3%	70%	30%
high	30%	23,3%	30%	70%

Results of evaluation of the level of compliance in practically healthy people without dental diseases were found in the vast majority of surveyed the low level of compliance (table 5).

Table 5

The level of compliance in practically healthy people

Level	Compliance			
	Social	Emotional	Behavioral	General
low	85%	62%	70%	66,67%
average	15%	38%	30%	33,33%
high	0%	0%	0%	0%

Note that this may indicate that practically healthy people do not consider it necessary to follow certain preventive recommendations and make their own decision in the absence of any of them as dental and general somatic diseases. This category of people is characterized by a low level of attention to the state of their health, focus only on their own decisions, willingness to enter into an open confrontation with regard to any recommendations. In this circumstance for the physician in this group it will be difficult to rely on an understanding of the need for preventive measures that prevent the development of GPD. That may indicate a low dental culture in our population.

Thus, as a result of the study, several general conclusions can be drawn:

1. The low level of all components of compliance in patients with GPD, associated with AN, proves that the implementation of complex treatment will be quite complicated and will require time costs and extensive erudition of a physician with the mandatory inclusion in the assistance of the family of a patient, a psychiatrist and a neuropathologist. This group, of course, can be classified as a risk group to achieve a satisfactory, sustainable and predictive outcome of the treatment of GPD. We believe that the doctor will encounter a number of problems, including the underestimation of the patient's severity of the disease, most likely with disregard for the possible consequences, complications and recommendations of the doctor.

2. Assessment of the level of complience in patients with GPD, assosiated with AN is not just a relation to treatment. By this notion is concealed a peculiar picture of its relation to own health, expressed in a qualitatively new peculiar figure of the behavior of activity and life in general.

3. We believe that a fairly low level of compliance in the control group indicates a low dental culture and a lack of educational work among ukrainian contingent, which undoubtedly is a serious omission of state, social, scientific and medical institutions.

4. We believe that increasing the level of compliance can serve as a key factor in planning the treatment of dental diseases, as well as a guarantee of the effectiveness of preventive measures for the treatment of generalized parodontal diseases in patients with anorexia nervosa.

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