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## **THE ROLE OF THE PSYCHOLOGICAL TYPE OF PERSONALITY IN THE FORMATION OF ADHERENCE TO TREATMENT OF PATIENTS WITH RESISTANT ARTERIAL HYPERTENSION**

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### **Abstract**

The article considers the results of analysis of the personality psychological type of patients with resistant arterial hypertension in the formation of adherence to treatment for the purpose of effective blood pressure control by a doctor and a patient. Obtained data is demonstrated that the overwhelming majority of both adherent and non-adherent patients are characterized by “adaptive” types of attitude to disease (harmonic, ergopathic, anosognostic), that is, types without impairment of mental and social adaptation.

Non-adherent patients more often have types of attitude to disease, such as apathetic, melancholic, mixed ergopathic and hypochondriac-sensitive types, which were characterized by indifference to their illness, depressed mood, fear of becoming a burden to relatives, a fear of side effects of medication, which in general may contribute to patients' non-adherence to treatment.

Adherent patients more often have types of attitude to disease, such as harmonic, ergopathic, anosognostic and mixed ergopathic-anosognostic types, which indicated the

patient's desire to save working capacity and unwillingness to assume the role of "patient". The motivation for active continuation of treatment in such patients may be the desire to return to a full-fledged lifestyle, to maintain their ability to work, which in general can contribute to the patient's adherence to treatment.

**Keywords: resistant hypertension; uncontrolled blood pressure; adherence to treatment**

### **Introduction**

Assessing the personality psychological type of a patient with arterial hypertension is essential in the practice of the family physician to understand the nature of the patient's attitude to the disease and its treatment, adherence to the physician's recommendations and medication, which in turn determines the basis of adherence or non-adherence to treatment [1, 2]. It has been convincingly demonstrated that insufficient adherence to treatment of patients with arterial hypertension is one of the main reasons for the lack of effective control of blood pressure [3, 4, 7]. Although patients with resistant arterial hypertension receive treatment with three or more antihypertensive drugs, effective control of blood pressure cannot be achieved in the vast majority of such patients [5, 6]. Therefore, the assessment and correction of factors that influence on patients' adherence to treatment is a pressing issue.

**The aim of the work** is to study and conduct a comparative analysis of the personality psychological type of patients with resistant arterial hypertension with varying degrees of adherence to treatment.

### **Materials and methods of research**

The study was conducted on the basis of the Center for Reconstructive and Restorative Medicine (University Clinic) of the Odessa National Medical University, at the Department of General Practice - Family Medicine. Study included 86 patients aged from 45 to 74 years old (average age  $(59.4 \pm 8.4)$  years), 45 women (52.3%) and 41 men (47.7%) with diagnosed resistant arterial hypertension (blood pressure is above 140/90 mm Hg on the background of the administration of three antihypertensive drugs) and lack of psychiatric disorders in the anamnesis. In order to diagnose the type of response to the disease was used a questionnaire - Psychological diagnosis of types of attitude to the disease, developed in the laboratory of clinical psychology of the St. Petersburg Psychoneurological Institute named by V.M. Bektarev (1987). [8]. Patients' adherence to treatment was determined using the Moriski-Green questionnaire [9, 10], which was evaluated as follows: 0-2 points - non-adherent to treatment, 3-4 points - adherent to treatment.

Statistical processing of the results was performed using the statistical analysis package Microsoft Excel 2010 (Microsoft, USA, 2010) and Statistica 6.0 (StatSoft, 2006). The appropriateness of the distribution of clinical trial data on the law of normal distribution was verified by the Shapiro-Wilk test. The arithmetic mean and standard deviation ( $M \pm SD$ ), frequency, and standard error ( $P \pm q$ ) were used to describe the data in the normal distribution. To determine the significance of the difference between proportions (percentages, frequencies) was used the Z-test criterion, the criterion  $\chi^2$ . The threshold for statistical significance was taken to be  $p < 0.05$ .

### Results and discussion

Analysis of patients' adherence to treatment, determined using the Moriski-Green questionnaire, revealed that the majority of patients were non-adherent to treatment (54 patients) -  $(62.8 \pm 4.5)\%$  versus 32 patients -  $(37.2 \pm 7, 3)\%$  adherent to treatment ( $p < 0.01$ ).

According to the results of psychological diagnostics, using the Bechter Institute Personal Questionnaire, frequency characteristics of prevalence of different types of attitudes to disease among adherent and non-adherent patients were determined (Fig. 1).

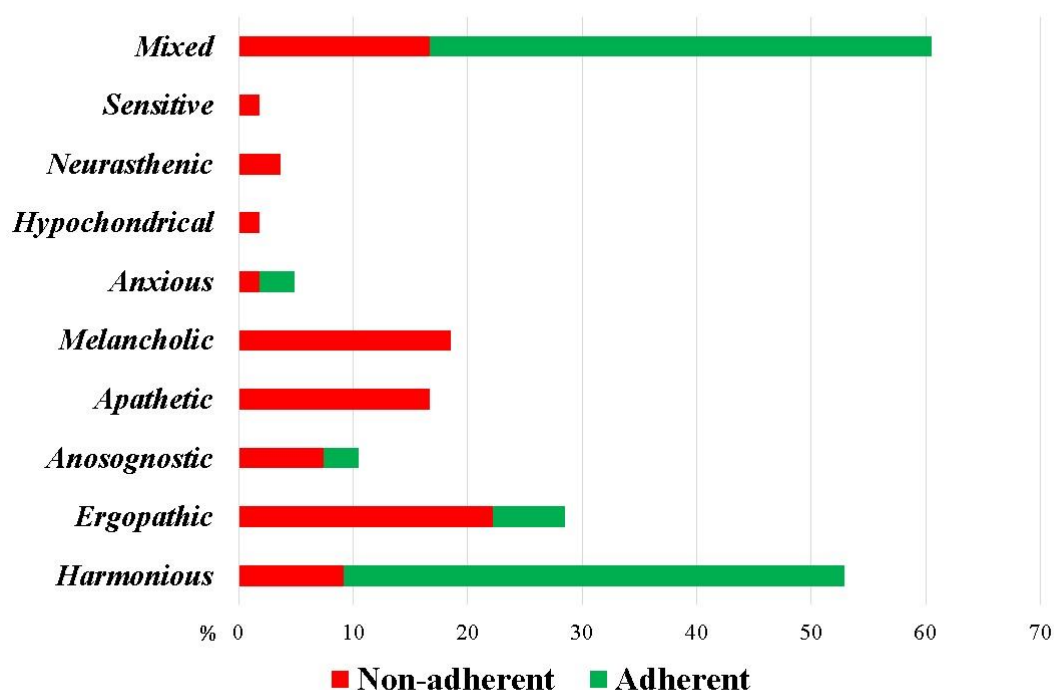


Figure 1. Frequency (%) of identifying different types of attitudes to disease among adherent and non-adherent patients

Note.  $X^2 = 21.5$ ,  $p > 0.1$ . No significant differences were found for the type of attitude to disease among adherent and non-adherent patients (Pearson's criterion  $X^2$ ) for the frequency of types.

The data presented in Fig. 1 show that patients with resistant arterial hypertension most often revealed a harmonious type of attitude to the disease -  $(43.7 \pm 5.6)\%$ , which was characterized by a correct assessment of their health status. Also, relatively often, in adherent patients, ergopathic  $(6.3 \pm 5.6)\%$ , as well as mixed ergopathic-anosognostic  $(21.8 \pm 5.6)\%$ , types of attitude to the disease were determined. The ergopathic type of attitude to the disease was characterized by the patient's desire to remain able to work and to "get into work", and the mixed ergopathic- anosognostic type also indicated the unwillingness of such patients to assume the role of "patient".

Non-adherent patients with resistant arterial hypertension often showed apathetic  $(16.7 \pm 4.7)\%$ , melancholic  $(18.5 \pm 4.7)\%$  and mixed ergopathic-sensitive  $(9.2 \pm 4.7)\%$  and hypochondriacal -sensitive types -  $(7.4 \pm 4.7)\%$ . Apathetic type of attitude to the disease was characterized by indifference to illness, melancholic – by a despair in recovery, depressed mood because of illness, ergopathic-sensitive – by fear of becoming a burden for relatives and desire to keep working capacity, and hypochondriacal-sensitive – by focusing on subjective feelings and fear of side effects of medication. In non-adherent patients, the harmonic type of attitude to the disease  $(9.2 \pm 4.7)\%$  was less common, and in addition to the other types mentioned above, anxious, hypochondriacal, neurasthenic and “pure” sensitive types were found. Dysphoric, paranoid, and self-centered types of attitudes in the examined patients have not been identified.

The identified different types of attitudes to disease were grouped into three blocks: conditionally adaptive, intrapsychic-maladaptive and interpsychic-maladaptive (Fig. 2).

The data in Fig. 2 show that for a considerable number of both adherent  $(84.4 \pm 7.9)\%$  and non-adherent patients  $(48.2 \pm 6.4)\%$ , “adaptive” types of attitude to the disease (harmonic, ergopathic, anosognostic) were found, that is, mental and social adaptation in the examined patients was not significantly disturbed. However, the non-adherent patients more often were characterized by types of illness (apathetic, melancholic, anxious, hypochondriacal, neurasthenic) with the intrapsychic nature of the personal response to the disease  $(42.6 \pm 6.4)\%$ , compared with adherent  $(15.6 \pm 7.9)\%$ .

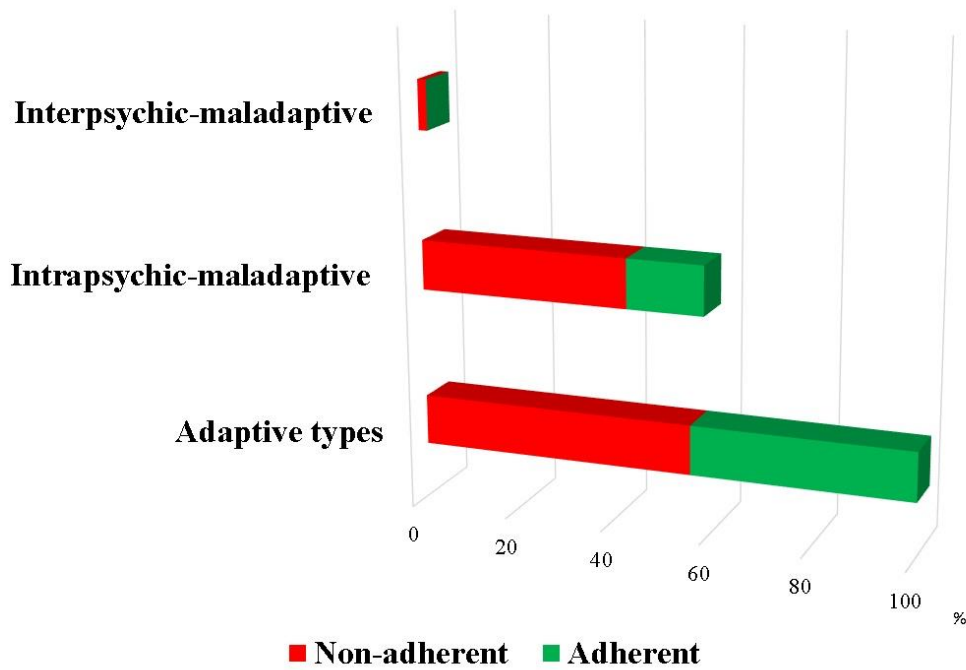


Figure 2. Frequency (%) of identifying different blocks of types of attitude to disease among adherent and non-adherent patients

Note.  $X^2 = 3.7$ ;  $p > 0.1$ . No significant differences were found for the type of attitude to disease among adherent and non-adherent patients (Pearson's criterion  $X^2$ ) for the frequency of types.

The absence of statistically significant differences in the frequency characteristics of the prevalence of a particular type of attitude to disease required comparisons of the group-average scale scores for each of the identified types of attitude to disease in adherent patients (3-4 points according to the Moriski-Green questionnaire) and non-adherent patients (0-2 points for Moriski-Green questionnaire (Fig. 3).

As can be seen from Fig. 3, it was found that in adherent patients the value on the scale of the harmonic type of attitude to the disease was significantly higher than in non-adherent patients ( $p < 0.01$ ). In turn, no significant difference was found between the values of the ergopathic, anosognostic, and anxiety types ( $p > 0.1$ ).

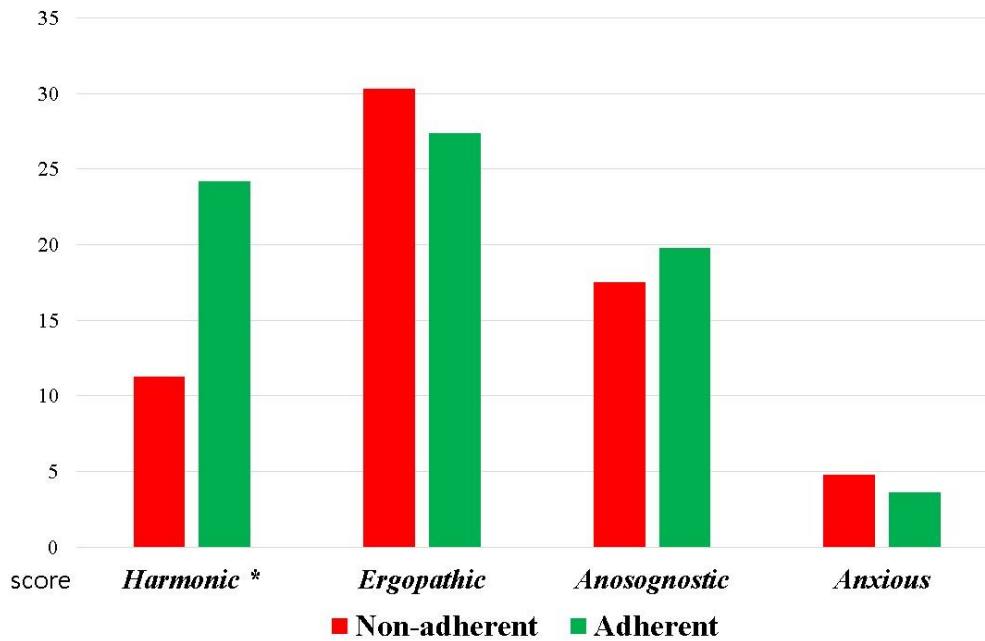


Figure 3. Mean group scores of the expressiveness of the types of attitude to disease in adherent and non-adherent patients,  $M \pm SD$ , scores

Note. Significance of difference between groups less than  $p < 0.05$  is indicated \*

Therefore, the above data demonstrate that the overwhelming majority of both adherent ( $84.4 \pm 7.9$ ) % and non-adherent patients ( $48.2 \pm 6.4$ )% are characterized by “adaptive” types of attitude to disease (harmonic, ergopathic anosognostic), that is, types without impairment of mental and social adaptation. The motivation for active continuation of treatment in such patients may be the desire to return to a full-fledged lifestyle, to maintain their ability to work, which in general can contribute to the patient's adherence to treatment. However, it is worth noting that relatively frequent adherent patients were characterized by “adaptive” but non-harmonious types, such as ergopathic ( $6.3 \pm 5.6$ )% and mixed ergopathic-anosognostic ( $21.8 \pm 5.6$ )% types, which indicated the patient's desire to save working capacity and unwillingness to assume the role of "patient".

Non-adherent patients more often have types of attitude to disease, such as apathetic, melancholic, mixed ergopathic and hypochondriac-sensitive types, which were characterized by indifference to their illness, depressed mood, fear of becoming a burden to relatives, a fear of side effects of medication, which in general may contribute to patients' non-adherence to treatment.

### **Conclusions:**

1. In patients with resistant arterial hypertension, types of attitude to disease, in which mental and social adaptation are not significantly impaired, predominate.

2. Non-adherent patients were more often characterized by types of attitude to disease such as apathic ( $16.7 \pm 4.7\%$ ), melancholic ( $18.5 \pm 4.7\%$ ), mixed ergopathic-sensitive ( $9.2 \pm 4.7\%$ ) and hypochondrical-sensitive types ( $7.4 \pm 4.7\%$ ), and adherent patients - harmonic ( $43.7 \pm 5.6\%$ ), ergopathic ( $6.3 \pm 5.6\%$ ) and mixed ergopathic-anosognostic ( $21, 8 \pm 5.6\%$ ) variants.

3. Adherent to treatment patients reported significantly higher values than non-adherent patients, on a scale of harmonious type of attitude to the disease ( $p < 0.01$ ), which is characterized by a correct assessment of their health status.

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