

## The Influence of Socio-Psychological Adaptation on the Formation of a Burnout Syndrome in Medical Personnel

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### Abstract

The article presents the results of a study of burnout syndrome and socio-psychological adaptation in medical professionals (doctors and nurses). It was revealed that the syndrome was detected in the majority of examined medical personnel. The connection between burnout syndrome and socio-psychological adaptation is traced.

**Keywords:** Burnout Syndrome; Medical Workers; Socio-Psychological Adaptation

### Introduction

The role of mental adaptation in the professional activities of medical workers increases with the increasing importance of this activity and the expansion of the range of professional situations that place increased demands on adaptation mechanisms. Moreover, the requirements for mental adaptation can be made dependent on the tendency to the emergence or intensification of mental stress in professional situations. The factors contributing to the occurrence of emotional stress can be the following: the lack of information necessary for making decisions, its inconsistency, the excessive variety or monotony, the assessment of work as exceeding an individual's capacity in terms of volume (quantitative overload) or degree of difficulty (qualitative overload), contradictory or uncertain requirements (a role conflict, role uncertainty), the inconsistency of the activity being carried out with the level of claims, critical circumstances and risks when making a decision.

The professional activity of a medical worker is emotionally and psychologically expensive, mediating the constant tension of the body's adaptive resources when performing an ordinary professional act [1]. According to the research of V.N. Krasnov "the duration of a person's full life to a relatively lesser extent than in the past depends on physical abilities and to an increasing extent on the psychological premises of activity".

A specialist suffering from the burnout syndrome is unable to conduct effective professional activities and maintain healthy interpersonal relationships both in the family and in the work team. As a rule, a person does not feel within himself the strength even for the performance of household, everyday activities. Such fatigue can provoke a state of depression, apathy, outbursts of irritation, a feeling of not passing stress and discomfort.

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However, in the studies of modern scientists the understanding of the role of the emotional state and psychological health of medical workers in the implementation of professional activities is not represented enough, mainly only from the point of view of the effectiveness of the medical worker in the implementation of the treatment process [2-4].

At the same time, the burden and the objective degree of responsibility that rests with the medical worker can lead to the emergence of errors in professional activities [5,6], professional deformation, the emergence of psychological and somatic problems. In this regard, more and more attention in modern society is paid to the psychological health of medical workers, the impact of personality problems and emotional state on the quality of carrying out professional activities. This fact is socially significant and relevant due to the direct correlation of the ranking of the medical profession in modern society and, on a global scale, the health status of the population as a whole, since, according to modern studies, the presence of the above mentioned problems creates patients' distrust of the doctor and unwillingness to seek the necessary medical help.

The analysis of modern research suggests that the primary cause of the burnout syndrome, in most cases, is psychological overwork, due to the specifics of the professional activities of medical workers. As noted by I.M. Sechenov "an organism without an external environment supporting its existence is impossible; therefore, the environment that affects it should also be included in the scientific definition of an organism" [7, p. 533].

According to modern researchers there are many factors that contribute to the accumulation of such overwork. Some of them are related to the attitude of the staff towards their activities and patients' problems, part - with the ability to organize their work and distinguish it from their personal lives, with the ability and skill to cope with emotional stresses, some of the factors lie in the organization of the team's activities in a particular institution, in the value of the objective specifics of the professional situation.

As A.V. Brushlinsky emphasized, the most important role of the subject, primarily the role of internal conditions, initially mediating all external influences [8].

The researchers cite feelings of social insecurity, uncertainty in socio-economic stability and other negative experiences associated with social injustice and lack of social support as factors contributing to the development of the burnout syndrome. It has been established that in stressful life situations for most people the need for social support increases, the absence of which leads to negative feelings and possible motivational and emotional deformation of the person. It can be assumed that there are significant individual differences in the dynamics of this need under the influence of stress factors and related strategies for behavior in stressful situations. The knowledge of these features, obviously, should be taken into account when developing stress management technologies based on the use of various types of social support. In order to professionally adapt specialists and preserve their professional longevity the development and use of various types of social, professional and personal support, warning the burnout syndrome, are promising [2,9].

A number of scientists believe that personality traits have a much greater influence on the development of burnout, not only in comparison with demographic characteristics, but also with factors of the working environment. The presence of correlations between personality characteristics and burnout led to the fact that the personality factor began to be considered as the leading one when choosing social professions. A review of the works devoted to this topic shows that a high level of burnout is closely related to passive tactics of resistance to stress; and vice versa, people who actively resist stress have a low level of burnout [8,10].

However, it is necessary to differentiate such closely related concepts as "overcoming" and "adaptation". The second definition refers primarily to the process of adaptation of an organism to the external environment or to changes occurring in the body itself.

In this context it should be noted that, according to domestic researchers, adaptive behavior is the optimal personality strategy within the framework of an overcoming act.

In this regard the attention of domestic researchers was attracted by human reactions that arise in response to both a single and constant stress exposure. Among them it is worth highlighting adaptation disorders leading to a decrease in social and professional functioning. It is in the form of an adaptation disorder that the most frequent manifestation of the burnout syndrome occurs leading in the future to other mental and psychosomatic disorders.

It is advisable to actualize the concept of adaptive abilities of a person which will directly update the resource capabilities of a medical worker and prevent professional burnout.

Under the adaptive abilities they understand the psychological characteristics of a person which are a condition for his effective interaction with the environment. Primary and secondary adaptive abilities are distinguished in modern domestic studies. Primary adaptive abilities are associated with the adaptation of the individual to interact with the environment in order to satisfy the lower (primary) basic needs and the secondary ones provide the satisfaction of higher needs and personal development [11,12].

The study and assessment of the adaptive abilities of the individual form the basis for predicting the development of the adaptive process of a particular personality as one of the aspects of effective psychological adaptation to changing living conditions. Modern research in the framework of this aspect is conducted in the direction of finding the optimal ratio of personal qualities that affect the success of psychological adaptation and the creation of a model of adaptive, stress-resistant personality [13]. It is determined that personality characteristics become maladaptive if the techniques and methods of the activity of the adaptation process are contrary to the individual psychological characteristics of the personality. Therefore, the active regulation of their behavior, the formation of individual techniques and methods of psychological adaptation increase the effectiveness of the activity and determine its effectiveness.

Thus, maintaining the health of a medical worker is directly related to the development of adaptive abilities which will directly affect the quality of work and the prevention of professional burnout [14].

### Aim of the Study

The aim of this work is to study the influence of socio-psychological adaptation on the manifestation of the burnout syndrome in medical workers.

### Materials and Methods

The study involved 150 medical workers, 29 doctors and 121 nurses, aged 21 to 60 years, from 2 to 40 years of experience. The average age of the subjects was 38.7 years, the average length of service was 18.3 years. To study the burnout syndrome, we used a technique for studying BS in medical workers, developed on the basis of the model of K. Maslach and S. Jackson, adapted by N.E. Vodopianova. To study the level of development of adaptive abilities we used a multi-level personality questionnaire (MLO) "Adaptability" by A.G. Maklakova and S.V. Chermianina designed to study the adaptive capabilities of an individual on the basis of assessing the psychophysiological and socio-psychological characteristics of a person, reflecting the integral characteristics of mental and social development, which is used to solve the problems of professional psychological selection and psychological support of professional activities. Mathematical processing of the data was carried out using the statistical software package STATISTICA 8 to identify the influence of the studied factors - one-way analysis of variance.

**Results and Discussion**

The analysis of the results (Figure 1) showed that there were medical workers in the sample (their total number 38%) who noted distinct signs of “emotional exhaustion” - a decrease in mood background and level of activity, a constant feeling of fatigue and “lack of energy”, increased mental exhaustion manifested in emotional restraint, irritability or loss of interest in the environment. According to the self-assessment of doctors this condition is associated with a high level of physical and emotional stress as well as with specific organizational forms of work in the field (daily duty, work at one and a half or two rates, excess of patients’ norms).

In contrast to “emotional exhaustion” “depersonalization” as a component of “burnout” of a person is presented quite clearly - at the level of medium (33.3%) and high (50%) values of scale assessments. “Depersonalization” is an interpersonal dimension of professional personality deformation and is manifested by the formation of special, destructive relationships with surrounding people. In particular, in the relationship with patients, “depersonalization” is manifested in the “loss of the patient” - emotional exclusion and indifference, the formal fulfillment of professional duties without personal involvement and empathy, and in some cases - in negativity and cynical attitude to patients. In such cases patients are perceived not as partners in the healing process and as individuals with their needs and experiences but as passive objects of medical manipulation. At the behavioral level “depersonalization” is manifested in arrogant behavior, the use of special medical slang, humor, labels for patients. “Depersonalization” is manifested not only in relations with patients. In particular, the signs of “depersonalization” include the formation of arrogance and, at the same time, touchiness towards colleagues, specialists in related specialties and relatives of patients.

The indicator of “reduction of personal achievements” - 32%, corresponding to a high level of expression reflects the degree of satisfaction with the physician as a person and as a professional. An increase in this indicator reflects a tendency toward a negative assessment of one’s competence and productivity and, as a result, a decrease in professional motivation, an increase in negativity in relation to official duties, a tendency to relieve oneself of responsibility, to isolation from others, detachment and non-participation, and avoidance of work at first psychologically and then physically. An integral indicator with a high index of 53.3% indicates that the burnout syndrome is presented in the form of a set of phases in many subjects and empirical data indicate that 15% of respondents have developed emotional exhaustion and depersonalization, and 6% have emotional exhaustion and reduction of personal achievements, in 12% - depersonalization and reduction of personal achievements, and in 22% - all three phases of emotional burnout.

Name of phase	Low level	Average level	High level
Emotional exhaustion	22	40	38
Depersonalization	16,7	33,3	50
Reduction of personal achievements	26,7	41,3	32
Integral indicator	16,7	30	53,3

**Table 1:** Distribution of respondents with different levels of burnout in a professional sample, %.

According to the results of the “Adaptability” methodology (Figure 1), which includes:

1. Behavioral regulation, the basic elements of which are: self-assessment, level of neuropsychic stability, as well as the presence of social approval (social support) from the people around. All selected structural elements are not the primary basis of behavior regulation. They only reflect the correlation of needs, motives, emotional background of mood, self-awareness, “I-concept”, etc. The regulation system is a complex, hierarchical formation, and the integration of all its levels into a single complex ensures the stability of the process of regulating behavior, the following results were obtained (low level - 68 subjects - 45.3%; average level - 76

subjects - 50.7%; high level - 6 subjects - 4%). A high level of behavioral regulation is characterized by neuropsychic stability, high adequate self-assessment and an adequate perception of reality. A low level - a tendency to neuropsychic breakdowns, the absence of adequate self-assessment and adequate perception of reality.

2. Communicative potential (CP or the ability to achieve contact and mutual understanding with others), which is determined by the presence of experience and communication needs as well as the level of conflict (low level - 35 subjects - 23.3%; average level - 106 subjects - 70.7% ; high level - 9 subjects - 6%). With a high level of CP communication skills are developed, with a low level - difficulty in building contacts with others.
3. Moral normativeness (MN), which provides the ability to adequately perceive by the individual a certain social role proposed for him. In this test the questions characterizing the level of moral normativeness of an individual reflect two main components of the socialization process: the perception of moral norms of conduct and attitude to the requirements of the immediate social environment (low level - 22 subjects - 14.7%; average level - 116 subjects - 77,3%; high level - 12 subjects - 8%). At a high level there is a pronounced socialization, an adequate assessment of their role in the team, at a low one, a low level of socialization, the inability to adequately assess their place and role in the team.
4. Personal adaptive potential (low level - 115 subjects - 76.7%; average level - 34 subjects - 22.7%; high level - 1 subject - 0.6%). A high level is characterized by good adaptive abilities. The people of this group easily adapt to new conditions of activity, quickly "enter" the new team, easily and adequately orient in the situation, quickly develop a strategy for their behavior and socialization, they, as a rule, are not conflicting, have high emotional stability. The functional state of the people of this group during the adaptation period remains within the normal range, performance remains. The average level has signs of various accentuations, which in the usual conditions are partially compensated and can occur when changing activities. Therefore, the success of adaptation largely depends on the external environmental conditions. These individuals, as a rule, have low emotional stability. The process of socialization is complicated, asocial disruptions, manifestation of aggressiveness and conflict are possible. The functional state in the initial stages of adaptation may be impaired. Persons in this group require constant monitoring. The low level has signs of obvious accentuations of character and some signs of psychopathy and the mental state can be described as borderline. Possible neuropsychic breakdowns, prolonged functional impairment. Persons of this group have low neuropsychic stability, are conflicting, and may allow delinquent acts.

The results show mainly low and medium values for all characteristics of the adaptive potential, while medical workers in 76.7% demonstrate low adaptive abilities.

A quantitative comparison of empirical data by occupational groups revealed the following differences (Figure 2).

### According to the level of development of behavioral regulation (BR):

- Doctors: (low level - 9 test subjects - 31%; average level - 19 test subjects - 65.5%; high level - 1 test subject - 3.4%).
- Nurses: (low level - 59 subjects - 48.8%; average level - 57 subjects - 47.1%; high level - 5 subjects - 4.1%).

### By the level of development of communicative potential (CP):

- Doctors: (low level - 6 test subjects - 20.7%; average level - 23 test subjects - 79.3%; high level - 0 test subjects - 0%).
- Nurses: (low level - 29 test subjects - 24%; average level - 83 test subjects - 68.6%; high level - 9 test subjects - 7.4%).

### According to the level of development of moral normativeness (MN):

- Doctors: (low level - 4 test subjects - 13.8%; average level - 23 test subjects - 79.3%; high level - 2 test subjects - 6.9%).
- Nurses: (low level - 19 test subjects - 15.7%; average level - 94 test subjects - 77.7%; high level - 8 test subjects - 6.6%).

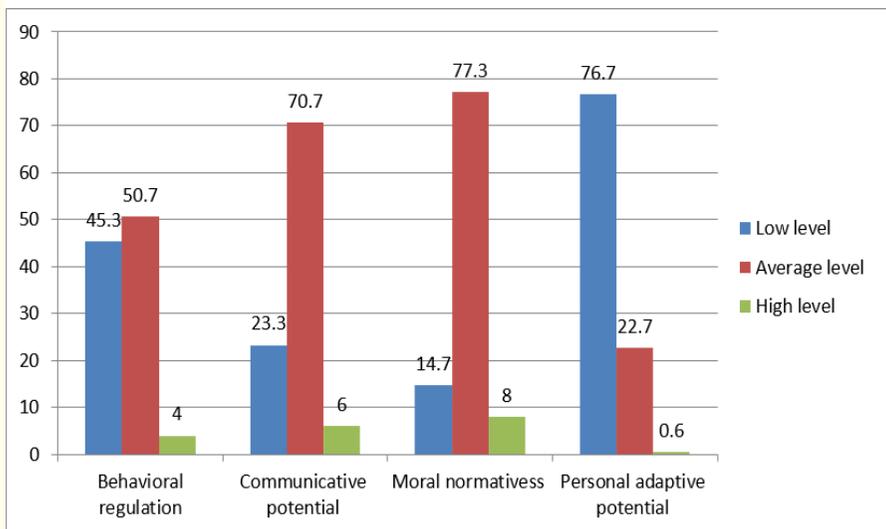


Figure 1: The number of respondents with a different level of adaptive abilities in a professional sample, %

According to the level of development of personal adaptive potential:

- Doctors: (low level - 19 test subjects - 65.5%; average level - 10 test subjects - 34.5%; high level - 0 test subjects - 0%).
- Nurses: (low level - 96 test subjects - 79.3%; average level - 24 test subjects - 19.8%; high level - 1 test subject - 0.9%).

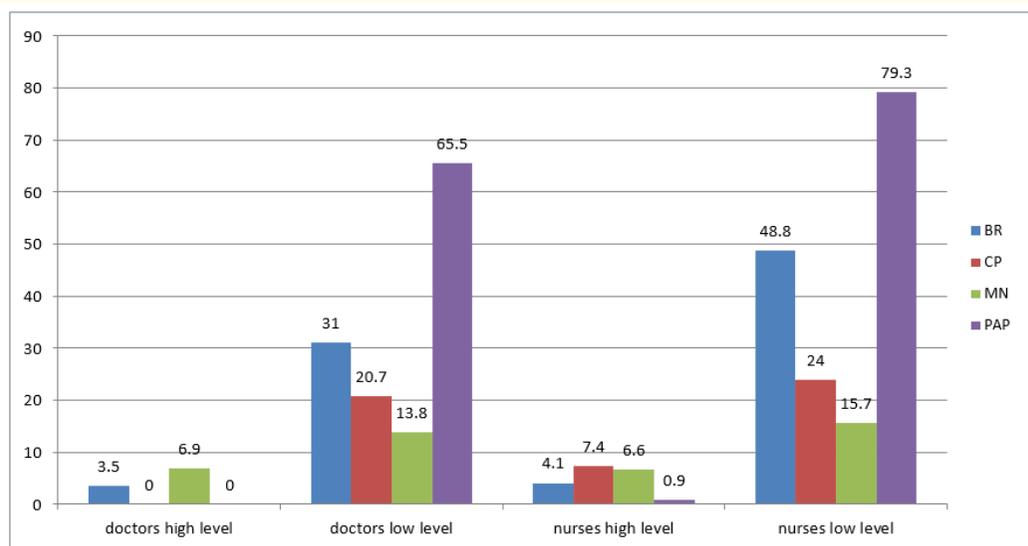


Figure 2: Levels of development of adaptive abilities in doctors and nurses (high and low levels), %.

A quantitative comparison of empirical data shows that CP and LAP have higher levels in nurses, which indicates that some representatives of this professional group have developed communicative properties and good adaptive abilities. But in general, both samples demonstrate a low level of adaptive abilities, which, of course, can contribute to the formation of emotional burnout.

To confirm the hypothesis about the influence of socio-psychological adaptation on the formation of burnout syndrome in medical workers, a one-way analysis of variance was used, namely, the sequential inclusion of four characteristics of socio-psychological adaptation measured in subjects as independent variables.

Based on the results of the analysis of variance, it turned out that a statistically significant effect on the emotional burnout of medical workers is exerted by their adaptive abilities, such as behavioral regulation (F = 8.25; p = 0.000400); communicative potential (F = 4.52; p = 0.012469) and the general adaptive potential of the individual (F = 8.30; p = 0.000385).

Analysis of variance (marked effects are significant p <,05000)								
Variable	SS effect	Df effect	MS effect	SS error	Df error	Ms error	F	P
Integral Indicator	1382,175	2	691,0876	12306,50	147	83,71767	8,254978	0,000400

Table 2: Results of a variance analysis of the dependence of burnout syndrome on behavioral regulation.

Analysis of variance (marked effects are significant p <,05000)								
Variable	SS effect	Variable	SS effect	Variable	SS effect	Variable	SS effect	Variable
Integral Indicator	792,7014	2	396,3507	12895,97	147	87,72770	4,517965	0,012469

Table 3: The results of the variance analysis of the dependence of burnout syndrome on the communicative potential.

Analysis of variance (marked effects are significant p <,05000)								
Variable	SS effect	Variable	SS effect	Variable	SS effect	Variable	SS effect	Variable
Integral Indicator	1388,482	2	694,2408	12300,19	147	83,67477	8,296895	0,000385

Table 4: The results of the variance analysis of the dependence of the burnout syndrome on the adaptive potential.

The use of the posterior Sheffe criterion showed that, according to the general level of professional burnout, medical workers differ from each other with low (average score of total emotional burnout 68.9) and average (average score of total emotional burnout 63.1) levels of behavioral regulation. These data (Table 5), as well as the graph presented in figure 3, demonstrate that with an increase in the level of behavioral regulation from low to medium, professional burnout among medical workers decreases.

Integral indicator (marked effects are significant p <,05000)			
	1	2	3
Behavioral regulation	M = 68,900	M = 63,149	M = 60,167
Low (1)		0,001132	0,084144
Average (2)	0,001132		0,745156
High (3)	0,084144	0,745156	

Table 5: The results of applying the posterior Sheffe criterion to identify differences in medical workers in the overall level of professional burnout (between groups with different levels of behavioral regulation).

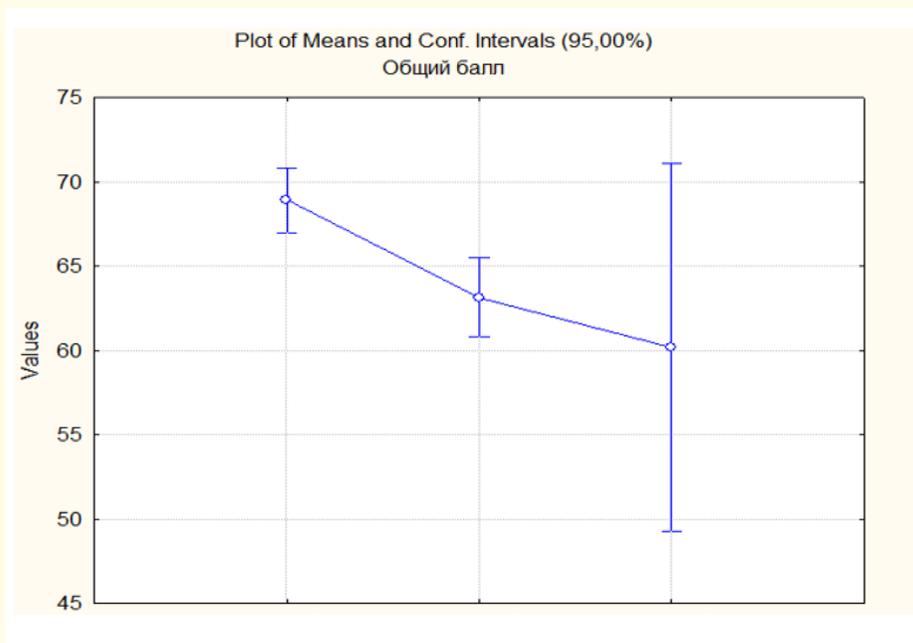


Figure 3: Dependence of the general level of burnout syndrome on the level of behavioral regulation.

If we consider the results of using the Sheffe criterion with respect to groups of medical workers with different levels of communicative potential, the following was revealed here. Statistically significant differences in the overall level of emotional burnout were established between the group with low and high average values of this adaptability indicator. In the first of these groups, the average value of the total burnup is 69.4, and in the second - 60.9 (Table 6). This suggests that with an increase in the communicative potential of the subjects, there is a tendency to decrease their emotional burnout. This is clearly shown in figure 4.

Differences in the general level of professional burnout were found among medical workers, divided into groups also in terms of their personal adaptive potential. The a posteriori criterion made it possible to establish that the groups of respondents differ significantly

	Integral indicator (marked effects are significant $p < 0,05000$ )		
Communicative potential	1 M = 69,361	2 M = 64,951	3 M = 60,909
Low (1)		0,055105	0,034986
Average (2)	0,055105		0,398586
High (3)	0,034986	0,398586	

Table 6: Results of applying the posterior Sheffe criterion to identify differences in medical workers in the general level of professional burnout (between groups with different levels of communicative potential).

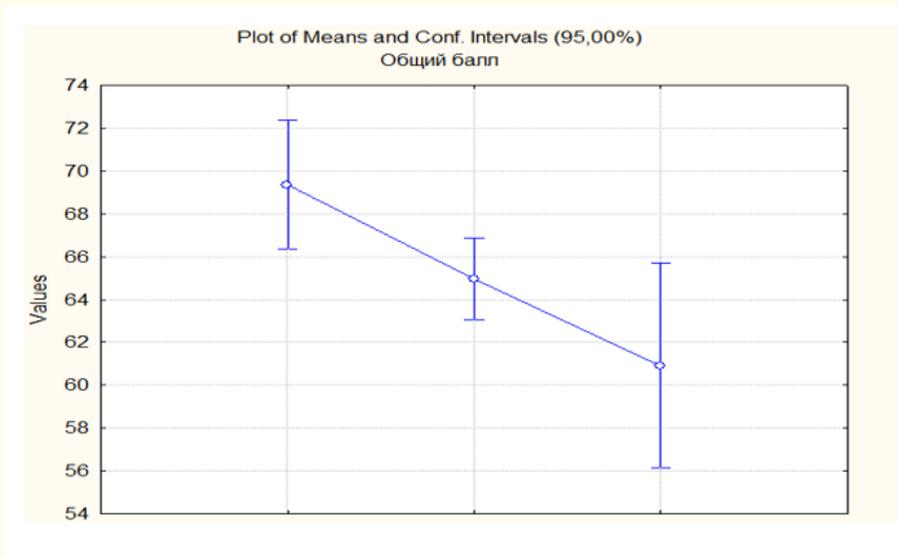


Figure 4: Dependence of the general level of burnout syndrome on the level of communicative potential.

according to the aforementioned criterion, on the one hand, low (average overall burn-up score 68.1), and on the other hand, medium (average total burn-up score 68.3) and high (average total burnout score of 60.3) levels of adaptability potential (Table 7). At the same time, subjects with the last two levels do not differ in burnout. Figure 5 shows that with the transition from a low level of potential of personal adaptation to a higher one, the overall severity of emotional burnout of health workers decreases.

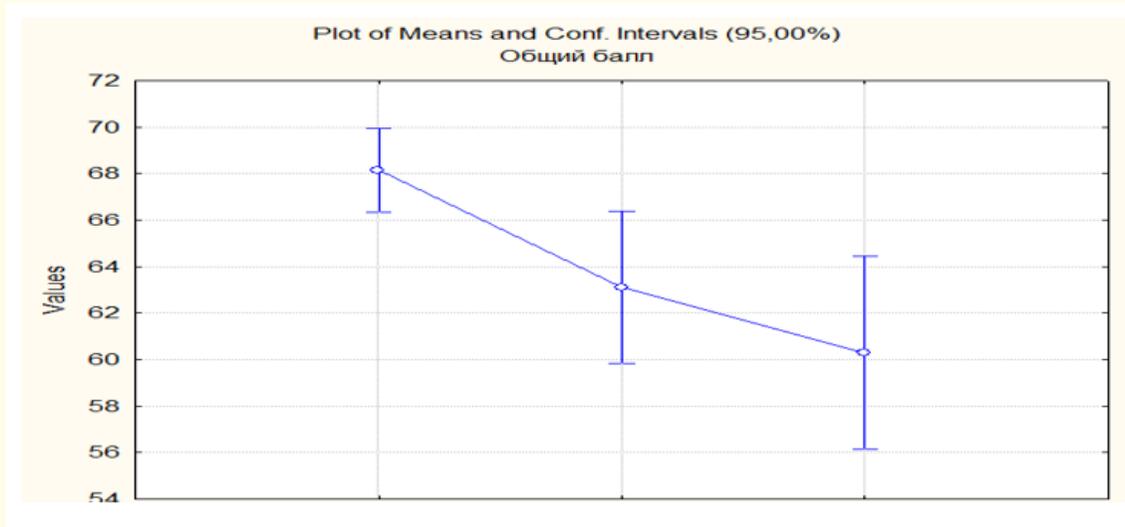


Figure 5: Dependence of the general level of burnout syndrome on the level of adaptive potential.

	Integral indicator (marked effects are significant $p < .05$ )		
Personal adaptive potential	1 M = 68,135	2 M = 63,098	3 M = 60,300
Low (1)		0,015966	0,003156
Average (2)	0,015966		0,534731
High (3)	0,003156	0,534731	

**Table 7:** The results of applying the posterior Scheffe criterion to identify differences in medical workers in the general level of professional burnout (between groups with different levels of adaptive potential).

### Conclusion

1. In the sample studied, there are medical workers (38%) reporting distinct signs of “emotional exhaustion”; “Depersonalization” is presented at a high level in 50% of subjects; the indicator of “reduction of personal achievements” is 32%. An integral indicator with a high index of 53.3% indicates that burnout syndrome is presented in the form of a set of phases in many subjects, and empirical data indicate that 15% of respondents have developed emotional exhaustion and depersonalization, and 6% have emotional exhaustion and reduction of personal achievements, in 12% - depersonalization and reduction of personal achievements, and in 22% - all three phases of emotional burnout;
2. When studying the socio-psychological adaptation of doctors and nurses, the following results were obtained. Behavioral regulation, communicative potential, moral competence are represented by middle levels, while personality adaptive potential is represented by a low level.
3. The burnout syndrome among medical workers decreases with an increase in the level of behavioral regulation, communicative potential, and personal adaptation.

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