Peculiarities of Professional Burnout in Medical Personnel Employed in the Treatment of Covid-19 in Russian Clinics

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Abstract: The article considers the problem of preserving professional health due to the high level of development of emotional burnout of nurses in Russian clinics repurposed for the treatment of Covid-19. A study of the level of professional burnout of nurses involved in treating patients since the beginning of the pandemic was carried out after the removal of the main quarantine restrictions. This category of personnel with a high level of probability is prone to the development of professional burnout, since they work under conditions of high psycho-emotional and physical stress under the influence of a significant amount of professional stress, unfavorable social factors, as well as the threat of contracting a dangerous disease, which together provokes the accelerated development of professional burnout. Regression analysis showed that professional burnout lowers the general background of mood, contributes to the development of negative self-perception in nurses, which in turn leads to a decrease in immunity and an increase in the risk of Covid-19 infection.

1 INTRODUCTION

The modern world is facing a serious test. The Covid-19 pandemic has re-emphasized the relevance of the problem of professional burnout, especially in the field of helping professions. Health care workers experience heightened levels of occupational stress caused by the specific conditions of caring for Covid-19 patients. The features of the professional activity of nurses are associated with a high degree of responsibility for the life and health of others (Vinokur and Rybina, 2008), (Sablina and Butenko, 2010), (Caplan, 1994), (Schaufeli and Salanova, 2007), (Valero et al., 2013). They need to make quick decisions, have a high level of self-discipline, and be able to maintain high performance in extreme conditions. Wherein, work with high emotional return, experiencing constant psychological and intellectual stress and, at the same time, maintaining involvement in patients' problems.

This can deplete the physical and psychological resources of a medical worker and, accordingly, lead to his emotional (professional) burnout (Vodopyanova and Starchenkova, 2008), (Ermakova, 2010), (Koroleva, 2007), (Afari et al., 2000), (Afari and Buchwald, 2014).

The professional activity of nurses is characterized by the need for constant close interaction with both colleagues and patients. This activity generates permanent stress, which can contribute to the development of deviations in the mental and somatic state of medical workers (Vinokur, Rybina, 2008), (Sablina, 2010). Psychosomatic manifestations of burnout include dizziness, insomnia, shortness of breath, nausea, excessive sweating, tremors, general malaise, changes in blood pressure, and discomfort in the heart (Adam et al., 2014), (Sykes, 2002). Wherein, immunity is sharply reduced, and exacerbations of chronic diseases occur. When the reactions move from the level of emotions to the level of psychosomatic disorders, this serves as an indicator that the emotional defense cannot cope with high loads and, accordingly, physiological disorders arise.

Professional (emotional) burnout is a complex multicomponent phenomenon. Until now, an unambiguous understanding of its essence has not

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been achieved. It is known that the syndrome of professional (emotional) burnout is characterized by a combination of symptoms of disorders in all spheres of life: mental, somatic and social (Hatcher and House, 2003; Huibers et al., 2003; Vendeloo et al., 2014).

To understand its essence, to carry out adequate diagnostics and correction, it is necessary to comprehensively study individual aspects of burnout within the framework of psychology, social work and medicine.

This is especially true in a pandemic (Sangrà et al., 2021; Sato et al., 2020; Chen et al., 2020), since nursing professionals work in direct contact with the patient, and the quality of medical care largely depends on them. Nursing in a pandemic is particularly demanding and challenging. This activity is associated with high psycho-emotional and physical stress, with the impact of a significant number of unfavorable social, household and professional factors, as well as with a high probability of contracting a dangerous viral infection.

A comprehensive analysis of the problem of professional (emotional) burnout will make it possible to create a program for early diagnosis and comprehensive prevention of this syndrome in medical workers. Implementation of this program will allow preserving and strengthening the physical and mental health of nurses and, accordingly, improving the quality of medical care they provide to patients.

Purpose of the work: to identify and analyze the features of professional burnout in nurses in the context of the Covid-19 pandemic.

2 STUDY ARRANGEMENT AND METHODS

The study was carried out after removal of the main quarantine restrictions (July - August of 2020). The study involved 135 people - nurses. All respondents are women, with an average age of 37 years. Of these, 70 people work in clinics that have retained their focus, not related to Covid-19; 65 people work in clinics repurposed to fight Covid-19. The sample was divided into two subgroups in accordance with the specifics of the work. Group 1 - nursing staff who are not directly involved in therapeutic actions with Covid-19, and who work in clinics that have retained their focus (70 people). Of these, none of the respondents had cases of the disease, either explicitly or latently. Group 2 - nursing staff who have taken and are directly involved in therapeutic actions for the treatment of Covid-19, and working in clinics repurposed to fight Covid-19 (65 people). Of these, 27 people had been ill with Covid-19 in a mild form (without hospitalization using mechanical ventilation) and continue to work in hospital environment with Covid-19 patients. In 38 people, antibodies to Covid-19 were detected, while they did not have this disease either explicitly or latently (no manifestations of the symptoms of the disease were recorded). These respondents also continue to work in a hospital environment with Covid-19 patients.

Presence of professional burnout was determined using the methodology "Diagnostics of Professional Burnout" (K. Maslach, S. Jackson, adapted by N.E. Vodopyanova) (Vodopyanova, 2002). Features of the manifestation of professional burnout were identified using the methodology "Diagnostics of the Level of Emotional Burnout" (V.V. Boyko) (Boyko, 2002). The definition of well-being as an indicator of professional "burnout" was carried out by the Diagnostic Technique for the Rapid Assessment of Well-Being, Activity and Mood (SAN) (Doskin et al., 1973). The specifics of the manifestation of professional burnout syndrome were clarified using the Color Choice Method - a modification of the eight-color Luscher test (Sobchik, 2012). eight-color Luscher iest (Sootink, Mathematical processing methods:φ -Fisher's criterion (angular transformation); regression analysis. The statistical data were processed using the SPSS-20.0 program.

3 RESULTS AND DISCUSSION

3.1 Study of Presence of Professional Burnout and the Characteristics of Its Manifestation in Medical Professionals

The results obtained according to the Technique for the diagnosis of professional burnout (K. Maslach, S. Jackson, adapted by N.E. Vodopyanova) are presented in Table 1.

It was found that in nursing staff in clinics not associated with direct care for patients with Covid-19 (group 1), psychoemotional exhaustion, depersonalization and reduction of personal achievements are predominantly at an average level. Mental burnout was revealed in a small part of the respondents (22.7%). In contrast, the nursing staff of

	Test subjects		
Questionnaire s	1st	2nd	
		group	group
	Low level	20	11
	Average score -6.5 points	20	
"Psychoemotional exhaustion"	Average level	67	33
	Average score -16.5 points		
	High level Average score - 24.8 points	13	56
"Depersonalization" (personal distance)	Low level	43	8
	Average score -3.7 points	45	
	Average level	36	61
	Average score - 8.2 points		
	High level Average score - 18.4 points	21	31
"Reduction of personal achievements" (professional motivation)	Low level	32	12
	Average score -19.6 points		
	Average level	26	64
	Average score - 27.2 points	20	
	High level Average score - 34.6 points	42	24
Burnout		22.7	42.4
average score - 98.4 points		22.1	42.4
Validity of differences		p<0.01	p<0.01

Table 1: Results of studying the presence of professional burnout in medical professionals (in % of the number of respondents in the group).

Table 2: The results of studying the characteristics of professional burnout in medical professionals (in average scores).

	Questionnaire scales	vonage –			resistance			emaciation				Validity of differences		
	Test subjects	1	2	3	4	5	6	7	8	9	10	11	12	
	Group 1	10.2	11.3	8.7	9.8	13.2	13.8	15.4	7.6	6.9	7.3	8.2	5.2	p<0.01
9	Group 2	16.2	21.6	27.5	24.6	15.3	15.1	28.5	24.7	17.5	29.7	27.9	27.8	p<0.01

clinics where patients with Covid-19 are treated (group 2) showed a tendency for high values to appear on all scales. Mental burnout was diagnosed in a very significant part of the respondents (42.4%). It should be noted that the respondents of group 2 are in a stressful situation, they are already on the verge of depleting all their resources: emotional, physical, energy. They are characterized by chronic emotional and physical fatigue. This, namely, may be associated with a weakening of the immune system and the susceptibility of some doctors to the Covid-19 disease. In addition, health professionals in group 2, compared with health professionals in group 1, demonstrate greater emotional restraint in relation to others, while they show signs of depression and irritability. Wherein, the respondents of both groups are not inclined to level the value of their activities; they consider themselves to be quite competent and wealthy professionals. Perhaps they tend to feel guilty about their own negative manifestations or feelings, but this does not lead to a dramatic decrease in professional and personal self-esteem. Despite the general fatigue of the respondents, especially of group 2, they retained a positive professional productivity, interest in work and optimism.

The results obtained by the methodology "Diagnostics of the level of emotional burnout" (V.V. Boyko) are presented in Table 2. The analysis was carried out for all indicators, highlighting the leading symptoms of "burnout" (highlighted in bold in the table). Based on the qualitative analysis, a conclusion was made about the degree of formation of each phase.

It was found that among middle-level medical professionals, the leading symptoms of professional burnout are: 1) the experience of traumatic circumstances; 2) dissatisfaction with oneself; 3) "being caged"; 4) anxiety and depression; 5) inadequate selective emotional response; 6) emotional and moral disorientation; 7) expansion of the sphere of economy of emotions; 8) reduction of professional duties; 9) emotional deficit; 10) emotional detachment; 11) personal detachment (depersonalization); 12) psychosomatic and

psychovegetative disorders. It was found that nursing personnel have practically all the symptoms of professional burnout corresponding to all three phases. There is a rather pronounced difference between the selected groups. So, in group 1, the level of professional burnout is more consistent with an uncommon or emerging symptom, while in group 2, indicators of an emerging and existing symptom prevail. It was revealed that in group 1 the developing symptoms are: the experience of traumatic dissatisfaction with yourself; circumstances; inadequate selective emotional response and emotional and moral disorientation. Probably, these strive realize respondents to themselves professionally, to "make a career". However, the situation of the pandemic, together with various unmet personal needs, does not give them the opportunity to "fully realize themselves" by satisfying their professional ambitions. Therefore, many working situations by this group of respondents can be perceived as traumatic, aggravating the growing dissatisfaction with themselves and giving rise to inadequate selective emotional response and emotional and moral disorientation, which, in turn, lead to a tendency to expand the sphere of saving emotions. This is a very negative trend, since it manifests itself in the behavior of people employed in the "person-to-person" sphere, moreover, in the sphere of a helping profession, which presupposes the presence of empathy in relations with other people. Therefore, the emerging symptoms can prevent these respondents from performing their professional duties efficiently.

The data in Table 2 show that for the respondents of group 2, the most characteristic is the experience of dissatisfaction with oneself; at the same time, they feel "driven into a cage" and, against this background, experience anxiety and depression. In addition, since these respondents are not completely satisfied with themselves, they tend not to show this and, accordingly, seek to expand the sphere of saving emotions, but this tendency in behavior inevitably leads to a reduction in professional duties. Feeling guilty about the fact that they cannot fully realize their communicative potential and give the necessary level of attention to patients, this group of respondents quite naturally begins to experience emotional and personal detachment, and, in order to reduce their state of cognitive dissonance, begins to formulate various "excuses" of their behavior. However, "excuses" work only on a rational level, without affecting the level of the unconscious, therefore, this group has a manifestation of psychosomatic and

psychovegetative disorders, in particular, a decrease in immunity and susceptibility to infectious diseases.

The analysis of the obtained results in general showed that in group 1 there are no clearly pronounced dominant symptoms in each phase or in the entire syndrome of "emotional burnout". On the contrary, in group 2 in each phase there are dominant symptoms, which, in fact, determine the manifestation of the syndrome of professional "burnout" in general. So for the phase of "stress" the dominant symptoms are "caged in", anxiety and depression, dissatisfaction with oneself. Moreover, from our point of view, it is precisely the feeling of "driven down" that determines the manifestation of anxiety and depression against the background of general dissatisfaction with oneself. In our opinion, this is quite predictable, since the doctors of this group are forced to be in isolated hazardous areas, they have limited contacts with loved ones, they are tired of the constant stress. Fatigue is likely to be viewed as their own weakness, therefore, they experience dissatisfaction with themselves and a state of depression. For the "resistance" phase, the dominant symptom is the expansion of the sphere of saving emotions, which "triggers" emotional and moral disorientation and the reduction of professional duties. That is, we can say that the respondents feel a complete hopelessness and are in such a state when they "give up" by themselves and there can be no question of any high-quality performance of professional duties. Therefore, it is quite natural that for the phase of "exhaustion" the dominant symptom is emotional detachment, which stimulates the development of personal detachment against the background of psychosomatic and psychovegetative disorders.

3.2 Study of the Characteristics of Well-being of Nursing Personnel

It was found that the respondents of group 1 demonstrate a more positive mood, greater activity and better mood in comparison with the respondents of group 2.

We believe that in the conditions of work with patients with Covid-19, coupled with the constant need to comply with increased safety measures, being in a confined space, fatigue accumulates, and the total number of various problems that lie both in the professional, personal and interpersonal spheres increases. Therefore, the results obtained did not surprise us; rather, we were upset by the fact that nurses from group 2, in the process of their extremely demanded work in a pandemic, unfortunately, feel uncomfortable, do not have a very high level of activity, which may explain the decreased mood background.

Table 3: The results of the assessment of well-being by the nursing personnel (in average points).

Test subjects	1st group		2nd	group	Validity of differences		
Scales	М	σ	М	σ			
Wellbeing	6.7	0.45	3.8	0,.57	p<0.01		
Activity	6.8	0.56	4.2	0.54	p<0.01		
Mood	5.9	0.54	3.6	0.59	p<0.01		

3.3 Clarification of the Features of Manifestation of the Syndrome of Professional "Burnout"

The results obtained by M. Luscher's Color Test were analyzed for each group separately. In doing so, we were specifically interested in two aspects: 1) desired goals or behavior dictated by desired goals, and 2) denied or suppressed properties that carry anxiety. The results are shown in Table 4.

It was found that the respondents of group 1 demonstrate a set of more constructive attitudes of behavior in comparison with the respondents of group 2. So only 22 % of respondents from group 2 at the time of the study were inclined to use adequate methods of response in stressful situations, while in group 1 - 67 % of respondents chose response options inherent in adequate constructive behavior. Let us stop in more detail on the choices that were made for the analyzed positions.

In group No. 1, 7 % of respondents are characterized by a positive state, a desire for recognition, for activities that ensure success. 11 % actively strive for success, for independent decisions, overcoming obstacles in their activities. 19 % of the respondents in this group have a businesslike, slightly

increased excitement, enthusiasm, optimism, a desire for contacts, for expanding the scope of their activities. 14 % of respondents experience a sense of satisfaction, calmness, a desire for a calm environment, while they express a reluctance to participate in conflicts and experience stress. 10 % of the respondents in this group are characterized by business excitement, active striving for a goal, to overcome all difficulties. They would like to receive high marks for their performance. Wherein, in this group, 12 % of respondents experience a feeling of anxiety, fear of loneliness, the desire to get away from conflicts and avoid stress. For 2 %, a feeling of resentment, even anger, against the background of a desire for cruelty and authority in relationships is characteristic. 8 % experience a state close to stress, feel difficulty in relationships, experience a feeling of limited opportunities. For 17 % of the subjects, a state of frustration was characteristic due to the limitation of ambitious requirements against the background of insufficient purposefulness.

Therefore, we can say that this group of respondents demonstrates a generally favorable picture of the manifestation of behavioral attitudes. Only 33 % of respondents experience obvious difficulties in adapting to the environment, which, in our opinion, may be due to the process of professional burnout. The generally positive picture for this group, from our point of view, can be explained by the fact that 1) these respondents in a pandemic were not associated with the processes of providing care to patients with Covid-19 and, accordingly, did not experience the negative impact of severe restrictive measures; 2) they were not at increased risk of infection; 3) these respondents practically did not change the characteristics of their lives, with the exception of those restrictions that were introduced in conditions of self-isolation.

Test subjects	1st group		2nd g	group	Validity of
Options of parameters Behavioural set	Choice options	Amount in %	Choice options	Amount in %	differences
Desired goals or behavior dictated by desired goals	+1+2	14%	+1+0	8%	p<0.01
	+1+6	12%	+1+2	10%	p<0.05
	+2+1	7%	+1+7	17%	p<0.01
	+2+3	11%	+2+0	18%	p<0.01
desired gouis	+3+2	10%	+4+2	11%	p<0.05
	+3+4	19%	+4+6	12%	p<0.01
	+3+6	17%	+4+7	8%	p<0.01
Denied or suppressed alarming	-1-5	8%	-1-7	12%	p<0.01
properties	-2-7	2%	-2-6	4%	p<0.05

Table 4: The results of studying the characteristics of the leading attitude of the behavior of nurses depending on age.

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Figure 1: Regression model of the influence of mental burnout on well-being and features of the leading attitude of the behavior of nursing staff.

In group No. 2, 10 % of the subjects were characterized by a feeling of satisfaction and calmness. For 11 %, a generally positive mood is characteristic; they seek to find ways of solving emerging problems and strive for self-affirmation. Wherein, 8 % experience a negative state and feel the need to get rid of stress by finding peace and relaxation. 17 % are characterized by the fact that they experience a feeling of dissatisfaction with the attitude of other people towards themselves; they tend to negatively relate to the situation, strive for peace and rest; in general, the condition is defined as negative. 18 % of respondents in this group experience a sense of dissatisfaction due to the desire for recognition and the desire to impress. In 12 %, a negative mood prevails due to various griefs and, as a consequence, they feel the need for emotional release. 8 % of respondents demonstrate a very negative mood and a desire to get away from any problems, as well as a tendency to inadequate solutions. For 12 % of the subjects of this group, a state close to stress is characteristic against the background of emotional dissatisfaction and, accordingly, the desire to leave the psychogenic situation. 4 % of respondents are also characterized by a state close to stress; they demonstrate inadequately increased self-control and an unreasonable desire for recognition

Therefores, 79 % of respondents in this group are characterized by very negative trends in behavior and self-perception, which is probably due to the peculiarities of their professional activities in the context of the Covid-19 pandemic. Regression analysis, in which the scale "Mental burnout" was used as an independent variable, found the effect of this variable on "Well-being" ($\beta = -0.32$); "Activity" ($\beta = -0.24$); "Mood" ($\beta = -0.26$) of the respondents, as well as their "Desired goals or behavior dictated by the desired goals" ($\beta = -0.31$) and "Denied or suppressed properties that carry anxiety" ($\beta = -0.29$).

This model explains 56.4 % of the variance in mental burnout. Therefore, a high level of mental burnout leads to a decrease in the general background of mood, contributes to the development of negative self-awareness among nurses both at the physical and psychological levels.

4 CONCLUSIONS

Nursing personnel who have been involved in the care of Covid-19 patients since the start of the pandemic are highly susceptible to occupational burnout.

The most significant symptoms, the presence of which may serve as an indicator of the onset of the development of the syndrome of professional burnout, are inadequate selective emotional response; expanding the sphere of saving emotions; reduction of professional duties related to the field of "resistance", as well as emotional; personal detachment and psychosomatic and psychovegetative disorders related to the sphere of "exhaustion". Presence of at least one of these symptoms in a dominant position can serve as a diagnostic indicator of the development of professional (emotional) burnout syndrome.

Professional (emotional) burnout leads to a decrease in the general background of mood, contributes to the development of negative self-awareness in nurses, as a result, it can contribute to weakening the immune system and increase the risk of contracting the Covid-19 viral infection.

Based on the results of the study, a training program was developed, which is currently being implemented in a remote format. This program is aimed at overcoming the syndrome of professional (emotional) burnout in nursing staff working in clinics repurposed to combat Covid-19, through improving overall well-being, awareness of the current psychological defense and correction of unwanted behaviors by working on emotional responses and the development of empathic and reflective abilities.

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