

# Psychological Status of Medical Students in Conditions of Exit from Self-Isolation

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## ABSTRACT

The article is devoted to the analysis of the psychological status of medical students in conditions of exit from self-isolation, as well as the development of practical recommendations for psychologists of educational institutions. The research used the following techniques: technique for diagnosing the level of social frustration by L.I. Wasserman (as modified by V.V. Boyko), technique "Coping Strategy Indicator" by J. Amirkhan (adaptation by N.A. Sirota and V.M. Yaltonsky) and psychological stress scale – PSM-25 Lemyre-Tessier-Fillion. The method of processing empirical data was used Spearman's criterion for correlation analysis, the SPSS-21.0 application package and Microsoft Office Excel 2010. It was found that a significant proportion of students experience psychological stress and social frustration. The results of a psychological study of coping strategies of medical students in the conditions of coming out of self-isolation showed that they most often use strategies focused on solving problems and strategies focused on finding social support. High levels of psychological stress and social frustration affect coping strategies, i.e. the higher the level of stress and frustration, the more often students prefer the ineffective coping strategy "avoidance of problems". The obtained research data can be used in the work of practical psychologists of educational institutions, to draw up programs for the prevention and correction of emotional disorders and to increase the use of the coping strategies repertoire. Practical recommendations were offered for psychologists of educational institutions.

**Keywords:** *self-isolation, medical students, pandemic COVID-19, distance learning, psycho-emotional stress, social frustration, coping strategies*

## 1. INTRODUCTION

Currently, due to the outbreak and spread of the dangerous viral infection COVID-19, there have been changes in many areas of life, including the education system [2, 6]. At the end of August 2020, 24,027,171 cases of coronavirus infection were confirmed, 825,718 deaths. In particular, in the Astrakhan region, there are more than 6 thousand cases of COVID-19 infection and 72 deaths. And thus, measures were taken to prevent the spread of coronavirus infection to switch to self-isolation and distance learning. Similar measures were established by the President of the Russian Federation in order to prevent an increase in the number of infected people, as well as an increase in deaths. Self-isolation means a forced measure of social distancing that restricts the movement of people on the street, mass gatherings, and the work of certain institutions. At the same time, self-isolation entails a situation of uncertainty [7, 8, 9]. Of course, the situation associated with the spread of the new coronavirus infection (COVID-19) has brought amendments to the educational activities of the university. Distance learning has also affected medical universities. The distance-learning format undoubtedly affects the psychological status of a person [11, 12]. The period of forced self-

isolation provoked an outburst of psychological problems and emotional disturbances among the population, especially this number included the student body. Doctors and medical students are at the forefront of the fight against the dangerous COVID-19 infection. Many students during their internship worked as orderlies or nurses in hospitals with COVID-19. In addition, residents, graduate students and students participate in the volunteer movement. Among the emotional disturbances during a pandemic, there are high rates of anxiety, distress and frustration [3, 4, 5]. Frustration is understood as a negative mental state caused by the impossibility of satisfying certain needs, which is accompanied by negative emotions [10]. In the study of Sidyacheva N.V., Zotova L.E. it was found that during the period of forced self-isolation, some of the students experience a feeling of loneliness, most of them indicate a lack of "live" communication, emotional destabilization is pronounced and a deterioration in physical condition is noted [1]. It should be noted that when considering the psychological concepts of interest to us, the study of psychological characteristics during distance learning during the COVID-19 pandemic and self-isolation is not currently available. In this context, the issues of researching students' coping strategies in a situation of getting out of self-isolation and their connection with psychological characteristics are relevant.

Thus, in connection with long-term self-isolation and distance learning, there is an urgent need to study the psychological status of medical students in the context of exit from self-isolation during the coronavirus pandemic. The aim of the study was to analyze the psychological status of medical students in conditions of exit from self-isolation.

**2. RESEARCH METHODOLOGY**

An empirical study was carried out in September 2020 at the Department of Psychology and Pedagogy of the Federal State Budgetary Educational Institution of Higher Education "Astrakhan State Medical University" of the Ministry of Health of Russia (Astrakhan). The testing was attended by students of a medical university in the amount of 60 people of the 5th course of the specialties "General Medicine" and "Pediatrics". The average age of the respondents was 22.3 years. The following psychological methods were used in the study:

1) technique for diagnosing the level of social frustration by L.I. Wasserman (as modified by V.V. Boyko), recording the degree of dissatisfaction with social achievements in the main aspects of life;

2) technique "Coping Strategy Indicator" by J. Amirkhan (adaptation by N.A. Sirota and V.M. Yaltonsky) which determines the dominant coping strategies of the individual (problem solving, seeking social support and avoidance). "Coping Strategy Indicator" can be considered one of the most successful tools for studying the basic strategies of human behavior. The idea behind this questionnaire is that all behavior strategies that are formed in a person in the course of life can be divided into three large groups:

- A problem-solving strategy is an active behavioral strategy in which a person tries to use all his personal resources to find possible ways to effectively solve a problem.

- The strategy of seeking social support is an active behavioral strategy in which a person, in order to effectively resolve a problem, turns to his environment for help and support: family, friends and significant others.

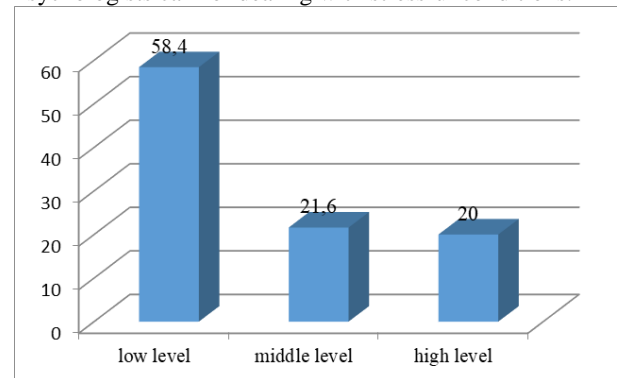
- Avoidance strategy is a behavioral strategy in which a person tries to avoid contact with the surrounding reality, to avoid solving problems. A person can use passive ways of avoiding, for example, going into illness or using alcohol, drugs, can completely "get away from solving problems" using an active way of avoidance – suicide.

3) psychological stress scale PSM-25 Lemyre-Tessier-Fillion (adapted by N.E. Vodopyanova) designed to measure the phenomenological structure of stress experiences. The obtained results of the experimental study are presented as an indicative sample, as well as a comparative selection of standardized methods. The method of processing empirical data was used – Spearman's criterion for correlation analysis, the SPSS-21.0 application package, and Microsoft Office Excel 2010. To obtain comparable results, the psychological

examination was carried out under conditions that were the same for all students of the medical university.

**3. THE DISCUSSION OF THE RESULTS**

In order to measure the structure of stress experiences in medical students, psychological stress scale PSM-25 Lemyre-Tessier-Fillion (adapted by N.E. Vodopyanova) was applied. A low level of stress was manifested in 58.4% (35 people) of medical students after way out of self-isolation (Fig. 1). Students with low stress levels have no adaptation problems and are ready for the workload. The average value of psychosocial stress among students was 26.6% (13 people). This value indicates that they perceive the way out of self-isolation calmly and do not show heightened concern in the current circumstances. Perhaps this is also due to the fact that the students had time to rest during the holidays. Students who have a high level of psychological stress on the psm-25 scale, namely 20.0% (12 people), are of concern. These students are experiencing high tension and anxiety due to the exit from self-isolation and the continuation of full-time studies during the coronavirus pandemic. It should be noted that high stress levels depress the nervous system and can lead to somatization of symptoms. Prolonged exposure to stress leads to extremely unfavorable consequences (increased excitability and irritability, constant tension of the nervous system, weakness, fatigue, poor concentration). Hans Selye emphasized that one should not be afraid of this, stress is an indispensable component of a person's life. Psychologists call for dealing with stressful conditions.

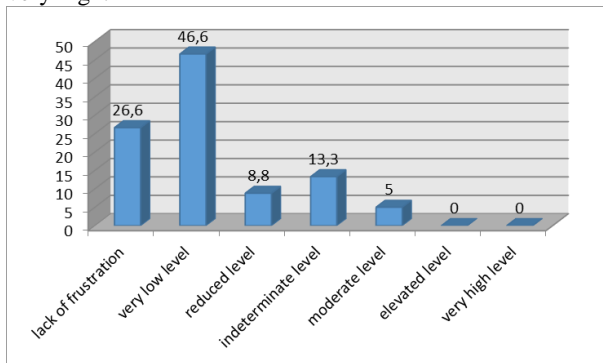


**Figure 1** Average values of the level of psychological stress PSM-25 among students

Compiled by the authors based on the research results

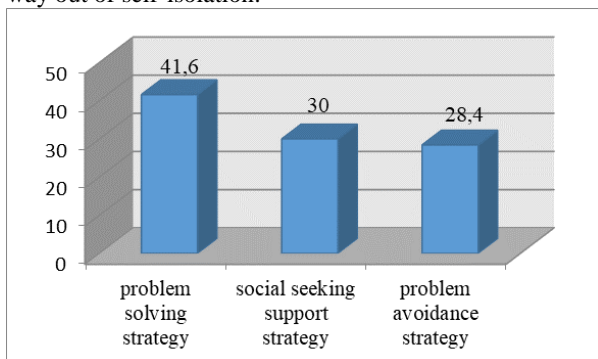
The results of quantitative processing by the method for diagnosing the level of social frustration by L.I. Wasserman (modified by V.V. Boyko) are shown in Figure 2. According to the test results, it was noted that 26.6% (16 people) had no or almost no social frustration. This result can be indicative of a positive indicator, but it can also indicate low ambitions in many aspects of life. A very low level of social frustration was found in 46.6% (28 people), which may be a positive trend after graduation from forced self-isolation for students. An indefinite level of social frustration was found in 8.8% (5 people) of

medical students. It can be assumed that students experience stress when way out of self-isolation. It also indicates an increased level of aggressive behavior in the form of verbal aggression and alienation. This result is observed in students with a high level of psychological stress on the psm-25 scale. A moderate level of social frustration was found in 5% (3 people) of students; they are characterized by social maladjustment at the time of exiting self-isolation. Thus, access to social life and the traditional full-time form after long-term self-isolation is a frustrator for medical students and can manifest itself in a high level of anxiety or aggressive behavior. However, among the surveyed there were representatives of different levels of social frustration, except for the increased and very high.



**Figure 2** Average values of the level of social frustration among students  
Compiled by the authors based on the research results

According to the technique "Coping Strategy Indicator" by J. Amirkhan (adaptation by N.A. Sirota and V.M. Yaltonsky), the dominant coping strategy among medical students is the strategy of "problem solving" – 41.6% (25 people). This result indicates that students are trying to use personal resources to find possible ways to effectively solve the problem (Figure 3). In second place in terms of frequency of use was the coping strategy "seeking social support" – 30.0% (18 people). This coping is emotionally oriented, i.e. in order to solve problems; they turn to their close circle (family, friends) for help. In third place in terms of frequency of use is the "problem avoidance" strategy – 28.9% (17 people). This coping strategy is the least effective in getting out of a stressful state and is an attempt to get out of a stressful state in this case; this is a way out of self-isolation.



**Figure 3** Average values of coping strategies among students  
Compiled by the authors based on the research results

As a result of the use of correlation analysis, multiple correlations were obtained between the studied indicators. To identify the structure of the relationship between psychological status and coping strategies in medical students, a correlation analysis was carried out using the Spearman correlation criterion. These results are shown in Table 1.

**Table 1** Correlation analysis results between psychological stress, social frustration and indicators of coping strategies

Variables	Correlation coefficient value, r	Significance level, p
Psychological stress (psm-25)	0,686	0,01
Social frustration	0,719	0,05
Coping strategy "problem solving"	-0,372	0,049
Coping strategy "seeking social support"	-0,354	0,001
Coping strategy "avoidance of problems"	0,586	0,001

The indicators of psychological stress and social frustration among medical students and the coping strategy "problem avoidance" (r = 0.586) are statistically related. The higher the level of psychological stress among students, the greater the extent to which they use the coping strategy of "avoiding problems". After coming out of self-isolation and continuing full-time education during the coronavirus pandemic, students with high levels of stress and tension tend to withdraw into themselves and feel alienated. The lower the level of psychological stress and social frustration among students, the more students use the most effective coping strategies of "seeking social support" and "solving problems".

#### 4. CONCLUSIONS

Thus, based on the study conducted on the assessment of medical students in conditions of exit from self-isolation, the following conclusions were drawn:

- 1) A significant part of students experience psychological stress and social frustration;
- 2) High levels of psychological stress and social frustration affect coping strategies, i.e. the higher the level of stress and frustration, the more often students prefer the ineffective coping strategy "avoidance of problems";
- 3) The results of a psychological study of coping strategies of medical students in the conditions of coming out of self-isolation showed that they most often use

strategies focused on solving problems and strategies focused on finding social support;

4) After way out of self-isolation and continuing full-time education during the coronavirus pandemic, students with high levels of stress and tension tend to withdraw “into themselves” and feel alienated.

In order to control the psychological status of medical students, you can use a battery of techniques that were used in this study. Work with the emotional experiences of students, which consists in the following well-known and well-proven methods and techniques, should consist of the following stages: 1) Correction of negative emotional experiences of students by a psychologist using the method of rational psychotherapy (development of alternatives to ways from difficult situations) by J. Ellis; 2) Autogenic training, auto-training, etc ; 3) Ericksonian hypnosis is a highly effective method for working with the inner resources of the human psyche. It is in this state that a person has access to internal resources that were forgotten, but remained in an unconscious state; 4) Teaching students the skills of self-regulation of their own experiences. Individual diagnostics of students and training sessions can also serve for these purposes.

The obtained research data can be used in the work of practical psychologists of educational institutions, to draw up programs for the prevention and correction of emotional disorders and to increase the use of the coping strategies repertoire.

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