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INFLUENCE OF FACTORS ON THE MENTAL HEALTH OF YOUNG UKRAINIANS STUDYING IN HIGHER EDUCATIONAL INSTITUTIONS IN MEDICAL SPECIALTIES IN NEW REALITIES

Abstract. Topicality. Mental health is one of the most important and serious problems because it is a leading factor in labour productivity and contributes to the country's economic development. The potential of any nation depends on youth and young professionals studying in higher educational institutions. Therefore, it was decided to conduct a study on the psycho-emotional state of student youth and develop strategies to improve mental health.

Purpose of the study: to investigate the impact of different forms of education on the psycho-emotional state of students studying in higher educational institutions in medical specialties during the introduction of martial law and the conduct of active hostilities on the territory of Ukraine. To study the feasibility of introducing a blended form of education and the impact of different forms of education on the quality of knowledge obtained.

The study used the following methods: bibliosemantic analysis, survey methods, sociological approach, medical-statistical methods, systematic approach and content analysis, and structural-logical analysis.

Results of the study. The results of the study showed that the emotional state of Ukrainian students significantly changes depending on the form of study during the war. Students studying in full-time forms of study noted that the quality of education improved after they switched from online studying. Most surveyed students are satisfied with the quality of the education received. Namely, $86.8 \pm 3.37\%$ and only $13.2 \pm 3.37\%$ remain dissatisfied. The assessment of the collected data showed that more than half of the respondents, namely $56.0 \pm 4.82\%$, believe that receiving education in the form of online studying affects the quality of knowledge received, only $16.2 \pm 3.67\%$ noted that online studying does not affect the quality of education at all, and $27.8 \pm 4.47\%$ of respondents believe that receiving education in the form of online studying does not affect, but rather affects the quality of knowledge received. At the same time, $82.1 \pm 3.83\%$ of respondents believe that the online studying format is optimal and more appropriate, and $17.9 \pm 3.83\%$ of respondents note that the online studying format is unacceptable even during the introduction of martial law. According to the survey, $81.7 \pm 3.86\%$ of students noted a deterioration in their psycho-emotional state during the transition to full-time education under martial law, and only $18.3 \pm 3.86\%$ of respondents did not feel that they had any changes in their psycho-emotional state. The transition to the education system is stressful for students primarily due to ongoing hostilities, constant air raids, and sleep disturbances due to a combination of all factors.

Conclusions. The study's results demonstrate students' readiness to adapt to new circumstances. They also demonstrate the need to continue studying and evaluating existing psychological support programs that improve their mental health and adaptive capabilities. They also demonstrate the need to develop new support programs that meet the needs of students in stressful and emergencies.

Key words: public health, mental health, psycho-emotional state of Ukrainian students, online studying.

Бібік І.Г. Вплив факторів на психічне здоров'я молоді України, що навчаються в закладах вищої освіти за медичними спеціальностями в нових реаліях

Анотація. Актуальність. Психічне здоров'я належить до найбільш вагомих та серйозних проблем, тому що воно є провідним чинником продуктивності праці й сприяє економічному розвитку країни. Потенціал будь-якої нації залежить від молоді та молодих фахівців, які проходять навчання в закладах вищої освіти. Тому вирішено провести дослідження щодо психоемоційного стану студентської молоді та розробити стратегії для підвищення ментального здоров'я.

Мета дослідження: дослідити вплив різних форм навчання на психоемоційний стан студентів, що навчаються в закладах вищої освіти за медичними спеціальностями під час запровадження воєнного стану й ведення активних бойових дій на території України. Вивчити доцільність запровадження змішаної форми навчання і впливу різних форм навчання на якість здобутих знань.

Методи: бібліосемантичний аналіз, опитування, соціологічний підхід, медико-статистичні методи, системний підхід та аналіз змісту, структурно-логічний аналіз.

Результати дослідження. Результати дослідження показали, що емоційний стан українських студентів суттєво змінюється залежно від форми навчання під час війни. Студенти, які навчаються за денною формою навчання, відзначили, що якість навчання покращилася після переходу з онлайн-навчання. Більшість опитаних студентів задоволені якістю здобутої освіти $86,8 \pm 3,37\%$ і лише $13,2 \pm 3,37\%$ висловили незадоволеність

якістю здобутої освіти. Оцінка зібраних даних показала, що більше половини респондентів, а саме $56,0 \pm 4,82\%$, вважають, що здобуття освіти в онлайн-форматі впливає на якість здобутих знань, лише $16,2 \pm 3,67\%$ зазначили, що онлайн-форма навчання взагалі не впливає на якість освіти. При цьому $82,1 \pm 3,83\%$ респондентів вважають онлайн-форму навчання оптимальним і більш доцільним у сучасних умовах, а $17,9 \pm 3,83\%$ респондентів зазначають, що онлайн-формат навчання є неприйнятним навіть під час воєнного стану. За даними опитування, $81,7 \pm 3,86\%$ студентів відзначили погіршення психоемоційного стану під час переходу на денну форму навчання в умовах воєнного стану й лише $18,3 \pm 3,86\%$ респондентів не відчули жодних змін у психоемоційному стані. Перехід до системи навчання є стресом для студентів насамперед через тривалі бойові дії, постійні повітряні тривоги та порушення сну через сукупність усіх факторів.

Висновки. Результати дослідження демонструють готовність студентів адаптуватися до нових обставин, а також необхідність продовжувати вивчати й оцінювати наявні програми для студентів у психологічній підтримці, які покращують їх психічне здоров'я та адаптаційні можливості. А також демонструють потребу в розробленні нових програм підтримки, які відповідають потребам студентів у стресових і надзвичайних ситуаціях.

Ключові слова: громадське здоров'я, психічне здоров'я, психоемоційний стан студентів України, дистанційне навчання.

Introduction. According to the WHO, health is a complete physical, mental and social well-being, not merely the absence of disease or infirmity. The WHO defines mental health as a “state of well-being” [1]. Mental health is one of the most important and serious problems because it is a leading factor in labour productivity and contributes to the country's economic development. The share of the burden of disease attributable to mental and behavioural disorders is increasing every year [2; 3]. Studies have shown that the share of the burden of disease of mental disorders is underestimated. Thus, in 2016, it was found that the burden of mental and behavioural disorders is 32.4 % of years lived with disability (YLD) and 13.0 % of DALYs, while previously these figures were 21.2 % of YLD and 7.1 % of DALYs [4]. According to WHO, in many countries of the world, including Ukraine, the issue of mental health is not given due attention, and proper prevention of these diseases is not carried out [5]. Mental health problems continue to gain increasing importance for university students who are faced with modern socio-economical and social problems.

Higher education students face numerous stressors that affect their emotional and mental well-being while studying in academic institutions. Adaptation to new educational systems, along with the development of professional skills, co-occurs with the development of interpersonal relationships between fellow students and professors during the student period. The combination of these circumstances, together with the constant academic workload, including extensive course materials and demanding examinations and research requirements, generates high levels of stress and anxiety. The most significant psychological risks students face include economic instability and social tension, global political crises, and the challenges of the COVID-19 pandemic. The pandemic has radically changed the academic world and young people's daily activities, causing a shift to

studying online and limiting social interactions [6]. Due to this social isolation, many students experience increased levels of anxiety, while their self-esteem decreases and symptoms of depression develop [7]. Financial problems play a significant role. Students who actively manage their financial resources confirm that financial difficulties are detrimental to their mental health [8]. The problem of mental disorders among young students has become one of the most relevant topics in modern research, requiring special attention due to the increase in stress factors. The prevalence of mental disorders among college students is estimated to be as high as 45 % [9]. The most recent survey of 103,639 students from over 150 colleges and universities across the United States in the spring of 2024, conducted by the American College Health Association, found that 19.5 % of college students experience severe psychological stress, 48.5 % feel lonely, and 25.9 % have suicidal thoughts. When answering the question: How would you rate the overall stress level experienced during the past 30 days? 50.0 % answered moderately, 26.3 % were high, and only 1.8 % did not experience stress [10]. Similar results occur among medical students around the world: according to a meta-analysis conducted in 2019, almost 34 % of students indicate signs of anxiety disorders, while 30 % suffer from depressive symptoms [11]. The results of Ukrainian studies have shown that anxiety disorders account for 35 % of all psychological problems, while depression affects 25 % of patients [12; 13]. During adaptation period in university, students experience academic pressure, social isolation, and financial stress, which significantly threatens their mental health. The emergence of irreversible processes in the state of physical and mental health of the country's population, as well as student youth, can negatively affect the socio-economic, political, and spiritual development of the Ukrainian nation as a whole, which poses a threat to the national interests of the state.

The potential of any nation depends on youth and young professionals studying in higher educational institutions. Therefore, it was decided to research the psycho-emotional state of student youth and develop strategies to improve mental health.

The purpose and objectives of the study: to investigate the impact of different forms of education (face-to-face, online and blended learning) on the psycho-emotional state of students studying in higher educational institutions in medical specialties during the introduction of martial law and the conduct of active hostilities on the territory of Ukraine. To study the feasibility of introducing a blended form of education (face-to-face and blended learning) and the impact of different forms of education on the quality of knowledge obtained.

Materials and research methods. The research was conducted in several stages, including analyzing literature by domestic and foreign authors and a survey of student youth. Methods used in the study: Biblisemantic analysis – analysis of available literature by domestic and foreign authors to study previous research in this area. Survey method – a survey was conducted among students studying medical specialties at the National Medical University, named after O. O. Bogomolets, and the Kyiv National University, named after Taras Shevchenko. Three hundred eighty-six respondents participated in the survey. The anonymous survey was conducted remotely using Google Forms while maintaining the confidentiality of all respondents' data. The data were transferred and calculated in a Microsoft Excel table. The statistical error was calculated using the standard method of calculating the standard error for proportions. This statistical method allows you to determine confidence intervals for shares (or percentages) in the sample. Questionnaires that assessed students' attitudes towards distance and in-person learning formats and their psycho-emotional state during learning were developed in compliance with ethical norms and principles-sociological approach – using sociological methods to collect quantitative data through questionnaires. Medical and statistical methods – static data was analyzed to assess students' health and behavioural trends. Percentages and errors were also calculated for different groups of students. Systemic approach and content analysis – identifying relationships between educational formats and the psycho-emotional state of students. Structural and logical analysis – developing and generalizing conclusions based on the data obtained and scientific sources.

Research results. During the study, one task was to determine students' psycho-emotional well-being during the introduction of martial law in Ukraine in

various forms of education, particularly those studying full-time or remotely. Did the transition from distance learning to full-time form affect the psycho-emotional state of students? Also, the following questions were included when conducting a sociological survey: “Are you satisfied with the quality of education received in a full-time format? What reasons prevent you from receiving quality education during martial law, how did the introduction of martial law affect the quality of education, and what form of education is appropriate when martial law is introduced?” The sociological study was attended by 386 students studying in medical specialties in the 1st-6th years, 90 students, which is $23.3 \pm 4.22\%$ of whom study at the Taras Shevchenko National University of Kyiv, 296 people, which is $76.7 \pm 4.22\%$ are students of the O.O. Bogomolets National Medical University. The gender and age distribution reflected the existing one: $79.5 \pm 4.05\%$ (307 people) were female, and $20.5 \pm 4.02\%$ (79 people) were male. Most respondents, $95.4 \pm 2.10\%$ (368 people), were aged 17 to 25 years, and only $4.6 \pm 2.10\%$ (18 people) were aged 25-30. In order to fully understand the psycho-emotional state of students, it was decided to investigate how students generally relate to the introduction of online studying and whether this affects the quality of education received, as well as whether students consider the transition from online studying to face-to-face format advisable. According to $37\% \pm 4.82\%$ (143 people) of students, receiving education through online studying has more of an impact than not on the quality of knowledge acquisition, but $27.8\% \pm 4.47\%$ (107 people) believe that it has no more impact. In comparison, only $16\% \pm 3.67\%$ (62 people) expressed the opinion that online studying does not affect the quality of education at all, $19\% \pm 3.91\%$ (74) believe that online studying has dramatically affected the quality of education received through online studying (Fig. 1).

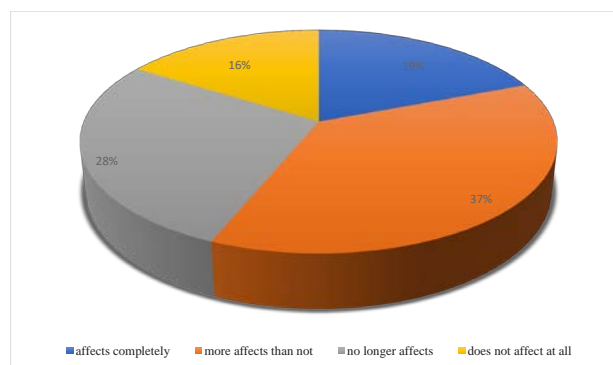


Fig. 1. Opinion of students of higher educational institutions regarding the impact of online studying on the quality of knowledge acquisition

A further survey revealed that the majority of respondents believe that the quality of education has deteriorated under martial law, with $31.5 \pm 4.63\%$ (122 people) saying that it has gotten worse, $37.7 \pm 4.83\%$ (145 people) saying that it has gotten worse. However, the changes are insignificant, with $26.5 \pm 4.41\%$ (102 people) saying nothing has changed and only $4.3 \pm 2.02\%$ (17 people) saying that the quality of education has improved under martial law. The majority of respondents are satisfied with distance learning. Namely, $86.8 \pm 3.37\%$ (335 people), and only $13.2 \pm 3.37\%$ (51 people) are dissatisfied with distance learning, with only $2.5 \pm 1.55\%$ (10 people) giving it a 0 point rating, and $13.2 \pm 3.37\%$ (51 people) giving it a maximum rating of 10 points.

Satisfaction with the face-to-face education format is expressed by $67.9 \pm 4.64\%$ (262 people). In comparison, $32.1 \pm 4.64\%$ (124 people) are not satisfied with the quality of education in the face-to-face format, with 0 points given by $6.9 \pm 2.53\%$ (27 people), and the maximum 10 points by only $4.4 \pm 2.04\%$ (17 people). Among the common reasons that prevent students from receiving a quality education, the following are mentioned: anxious thoughts about the future $13.6 \pm 3.43\%$ (52 people), air anxieties during study $12.3 \pm 3.28\%$ (47 people), air anxieties at night that prevent a whole night's sleep $16.7 \pm 3.73\%$ (65 people), anxiety caused by worries about one's safety $9.9 \pm 2.98\%$ (38 people), anxiety caused by worries about the safety of loved ones $9.3 \pm 2.90\%$ (36 people), anxiety caused directly by military actions on the territory of Ukraine $12.3 \pm 3.29\%$ (47 people), anxiety caused by a forced change of residence $3.7 \pm 1.89\%$ (14 people), introduction of a face-to-face learning format $16.7 \pm 3.73\%$ (65 people), introduction of a online studying format $4.9 \pm 2.16\%$ (20 people), constant monitoring of the news $0.6 \pm 0.77\%$ (2 people). Notably, $90.3 \pm 2.96\%$ (350 people) of respondents during the survey were studying in a face-to-face format, and only $9.3 \pm 2.90\%$ (36 people) were studying in a online studying format. $62.6 \pm 4.84\%$ (219 people) of those studying in the full-time format of education note that the transition from online studying to full-time education has affected the quality of education, and $37.7 \pm 4.83\%$ (131 people) of respondents do not feel any deterioration. $81.7 \pm 3.86\%$ (315 people) of respondents note a deterioration in their psycho-emotional state when switching to the full-time format of education, and only $18.3 \pm 3.86\%$ (71 people) do not feel that they have experienced any changes in their psycho-emotional state. In total, $71.8 \pm 4.49\%$ (277 people) believe that their psycho-emotional state has worsened during their studies at the university,

and only $28.2 \pm 4.49\%$ (109 people) do not feel any changes (Fig. 2).

Regarding the feasibility of implementing online studying during martial law, $82.1 \pm 3.83\%$ (317 people) consider such a format to be optimal and appropriate, and $17.9 \pm 3.83\%$ (69 people) on the contrary, that the online studying format is unacceptable even during the implementation of martial law. Interestingly, at the same time, the answers to whether it is advisable to implement the face-to-face training format during martial law were distributed almost equally. Namely, $56.3 \pm 4.94\%$ (217 people) voted for the feasibility of the face-to-face format, and $43.8 \pm 4.96\%$ (169 people) voted against it. However, $90.7 \pm 2.90\%$ (250 people) were in favour of introducing a mixed learning format (part of the days in person, part of the days remotely or some subjects in the face-to-face format, some online), and only $9.3 \pm 2.90\%$ (36 people) considered it inappropriate in modern conditions.

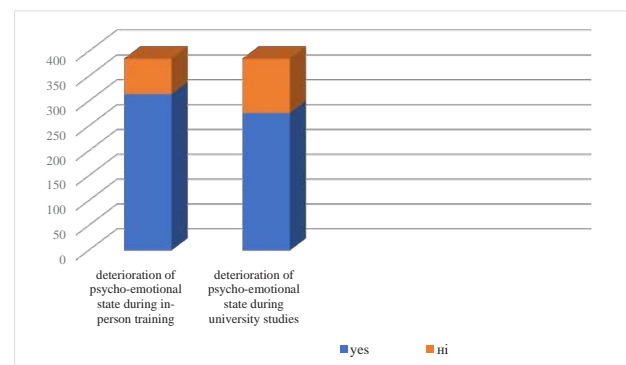


Fig. 2. Deterioration of the psycho-emotional state of students during training

Prospects for further research: to assess the effectiveness of existing psychological support programs for student youth. To develop recommendations for improving existing programs and introducing additional educational processes and support programs considering the needs of student youth under challenging conditions.

Conclusions

1. The results of the study showed that the emotional state of Ukrainian students significantly changes depending on the form of study during the war. Students studying in full-time forms of study noted that the quality of education improved after they switched from online studying. Most surveyed students are satisfied with the quality of the education received. Namely, $86.8 \pm 3.37\%$ and only $13.2 \pm 3.37\%$ remain dissatisfied.

2. The assessment of the collected data showed that more than half of the respondents, namely

56.0 ± 4.82 %, believe that receiving education in the form of online studying affects the quality of knowledge received, only 16.2 ± 3.67 % noted that online studying does not affect the quality of education at all, and 27.8 ± 4.47 % of respondents believe that receiving education in the form of online studying does not affect, but rather affects the quality of knowledge received. At the same time, 82.1 ± 3.83 % of respondents believe that the online studying format is optimal and more appropriate, and 17.9 ± 3.83 % of respondents note that the online studying format is unacceptable even during the introduction of martial law.

3. According to the survey, 81.7 ± 3.86 % of students noted a deterioration in their psycho-emo-

tional state during the transition to full-time education under martial law, and only 18.3 ± 3.86 % of respondents did not feel that they had any changes in their psycho-emotional state. The transition to the education system is stressful for students primarily due to ongoing hostilities, constant air raids, and sleep disturbances due to a combination of all factors.

The study's results demonstrate students' readiness to adapt to new circumstances. They also demonstrate the need to continue studying and evaluating existing psychological support programs that improve their mental health and adaptive capabilities. They also demonstrate the need to develop new support programs that meet the needs of students in stressful and emergencies.

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