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Educational losses of medical students and first-year medical interns in the conditions of war

IRYNA CHERNIAVSKA, LUBOV SKRYPNYK. **Educational losses of medical students and first-year medical interns in the conditions of war.** *The extremely difficult and challenging conditions that have prevailed over the past three years as a result of the COVID-19 pandemic and then Russia's full-scale invasion of Ukraine have negatively affected the state of higher education in Ukraine and caused significant educational losses for both secondary school and higher education students. As for the educational losses of medical students, they are significant and may lead to a loss of patient confidence in young doctors in the future and thus negatively affect the quality of future medical care.*

The article analyzes the results of a survey conducted among students of the 4th, 5th, 6th courses and interns of the 1st year of internship at the IFNMU and reveals that the most significant problem of educational

losses during the three years of study in difficult conditions was the lack of opportunities to form clinical thinking, gain experience and skills at the patient's bedside, and teamwork skills.

Despite all the difficulties, it is necessary and possible to minimize and compensate for educational losses and provide quality conditions for medical students to gain proper knowledge and practical experience with patients.

Keywords: *educational losses, educational gaps, war, medical students, distance learning.*

1. Introduction

Over the past three years, Ukrainian education has been in a difficult and dangerous environment. Two years of quarantine restrictions related to COVID-19 and the war unleashed by the Russian Federation have harmed higher education in Ukraine.

Due to these conditions, most Ukrainian universities have organized distance and blended learning. Distance learning, information and communication technologies, and supporting technologies have become key components of the continuum of education. There was a sudden shift from traditional face-to-face lectures to online learning. Higher education institutions, including IFNМУ, have developed and implemented distance and blended learning models using modern digital technologies on the Teams platform to provide comprehensive support to students, providing access to the Internet, adapted software, learning management systems, video conferencing, and widely used social networks and email. All of these conditions led to changes in the organization of the educational process itself, its content, communication between the teacher and the student, and between students themselves; approaches to the organization of students' independent work and the criteria for assessing students' knowledge in the new learning format have also changed.

However, despite all these measures, the practice has shown that in many cases they were not enough to effectively organize online learning. Many students and teachers were not ready for the transition to this form of education, and this partially reduced the quality of learning and decreased the academic performance of medical students [1].

When implementing distance learning at our university, several problems arose that both teachers and students faced, namely:

- problems with Internet access due to unstable Internet connection, lack of electricity, frequent alarms;
- insufficient level of readiness of some teachers to communicate with students and provide educational materials using modern information platforms, including due to lack of experience in online communication;
- insufficient self-discipline of the students themselves to perceive the material through distance learning. Even the work of the most qualified teacher will not be effective when it comes to online learning if students are distracted and do not follow the instructions for working in distance learning. Distance learning requires students to be present, active, skilled, and willing to ignore distractions; [3]
- lack of practical training at the patient's bedside, as medical education provides practical skills and clinical experience that are difficult to acquire remotely;
- difficulty in developing communication skills of medical students with patients;
- inability to fully form and develop clinical thinking.

The transition to new forms of education has affected the educational process and led to risks associated with some students falling behind in mastering the curriculum. [1]

2. Research and Results

In the context of the war, the destruction of the infrastructure of higher education institutions: damage to the premises of educational institutions, educational material, and technical facilities, training and production bases of practice; reduction of funding for higher education, forced large-scale displacement of participants in the educational process within Ukraine and abroad, all this led to significant educational losses and losses of students, and teaching staff. [4, 5, 6]

Frequent anxiety, sleep disturbances, staying in shelters, interruptions and lack of electricity and Internet connection, displacement due to hostilities within Ukraine and abroad, and loss of close relatives due to the war hurt the psycho-emotional state, and mental and physical health of both students and teachers. In the extremely difficult physical and psychological conditions that resulted from the war, confusion and uncertainty about the future led to a decrease in students' motivation and interest in learning.

Today's teachers intuitively realize that problems in the field of education are growing, despite the efforts made, and that student performance is declining.

Educational losses of medical students may lead to a loss of patient confidence in young doctors in the future and negatively affect the quality of future medical care.

There is currently no reliable data on the scale of the problem, but in May 2022, the World Bank's Education Sector Review noted that due to the pandemic and war, educational losses in our country could be more than one academic year. [9]

As you know, educational losses are the difference between the expected learning outcomes and the actual ones.

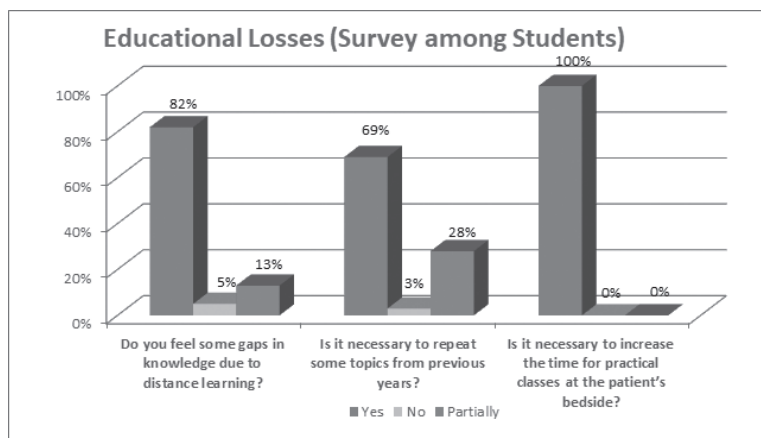
According to the Center for Educational Quality Assessment, educational losses include learning losses, educational losses, and psychological losses. [1, 2]

However, given the peculiarity of training future doctors, it is necessary to highlight communication losses, since in the educational process of medical students, much attention is paid to teaching communication between the future doctor and the patient.

Educational losses are very heterogeneous, they are individual for each student in particular, so the problem of overcoming educational losses is quite complex.

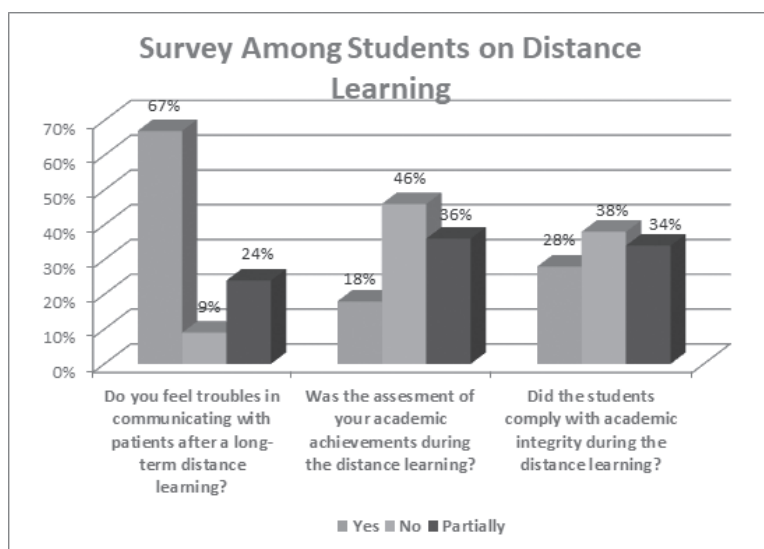
When analyzing the educational losses caused by COVID-19 quarantine restrictions on medical students in Western Europe, researchers found that 70.5% of students did not prefer to continue online learning because they felt that they did not receive clinical knowledge and their communication skills in interacting with patients and doctors were reduced. They also believe that face-to-face training is a more active process, the atmosphere in the classroom is more attractive for learning, as it provides more opportunities for the development of clinical thinking. Almost all students preferred offline practical classes. [7, 8]

The problems of educational losses and educational gaps in our country are extremely acute and require the development of a set of actions aimed at solving them as soon as possible. In this regard, there was a need to study educational losses among medical students of the IFNMU. A questionnaire survey of medical students and interns was planned.



After analyzing the survey among the fourth, fifth, sixth year students and first-year interns of the IFNMU, the following conclusions can be drawn:

- the majority of students (82%) experience gaps in knowledge due to distance learning;
- 69% of students need to repeat certain topics;
- the most significant problem of educational losses during the three years of studying in difficult conditions was the loss in the formation of clinical experience, namely the acquisition of skills at the patient's bedside, and all 100% of students believe that they need to increase the time for practical training.



The majority of the surveyed students (67%) indicated poor mastery of clinical skills: difficulties in communicating with patients, namely, in the skills of collecting complaints, life history, medical history, and conducting an objective examination of the patient.

In their responses, students pointed out the biased assessment of students' academic achievements (46%), and they consider the lack of academic integrity on their part (38%) to be a significant reason.

The questionnaire separately specified the answer to the open question: "What other problems have you had during your studies in the last three years?"

Medical students noted educational losses associated with the restriction of emotional interaction in pairs: teacher-student, student-student, and student-patient.

In their questionnaires, students also pointed to a decrease in motivation and a loss of interest in their future profession, as learning has become too theoretical. The results showed that many students reported digital fatigue and increased emotional stress. According to students, distance education requires more self-discipline, organization, and the ability to plan their time.

Thus, the survey results showed that the absence of student consultations at the patient's bedside led to a deterioration in the acquisition of clinical thinking skills and teamwork skills.

At the same time, students believe that distance learning has its advantages, namely: optimization of study time, the ability to study at one's own pace, continuous access to online materials, and "home comfort", online learning saves time because there is no need to move from one academic building to another. Therefore, according to the students, in today's conditions, the most optimal form of learning is blended learning: it is desirable to study theoretical material remotely, using both video conferencing and other versions of content in electronic format, as well as control of the input and output level of knowledge in the form of online testing, and to devote most of the study time to clinical practice, namely, practicing practical skills on virtual clinical simulators, on manikins in the OSCE center and paying special attention to work at the patient's bedside on the inpatient care at clinical hospitals.

3. Conclusions

Based on the study, the following recommendations can be made to overcome the educational losses of medical students:

- Provide psychological support and counseling to students facing stress and emotional difficulties;
- Conduct training on stress resistance and emotional self-regulation;
- Conduct introductory diagnostics to study educational losses;
- Identify key topics for studying in previous courses and schedule consultations for students to discuss these topics;
- Improve the professional competence of the teacher, high level of professionalism, psychological stability in martial law, mobility, flexibility, improvement of the mastery of modern information technologies and innovative teaching methods [10].
- Introduce alternative methods of gaining practical experience, including virtual practice, work with a virtual patient and simulators, interactive online workshops;
- Adjust the structure of training sessions to increase the practical part of training;
- Introduce project activities for medical students, focusing on the formation and development of teamwork skills during project activities;
- Encourage medical students to volunteer at palliative care centers and other medical institutions;
- Ensure the implementation of the principles of academic integrity among medical students as an important value that will help them develop in their professional activities.

Improving the quality of higher education in times of war is an important task for the university. Ensuring the most favorable learning conditions for applicants, namely: providing an individual study schedule, remote access to classes, etc. This is especially important for those applicants who have taken up arms to defend Ukraine, are in the temporarily occupied territories, or are internally displaced persons. [4, 5, 6]

Despite the ongoing war, it is necessary and possible to minimize and compensate for educational losses ensure the quality functioning of higher education in Ukraine, and promote the quality training of highly qualified modern specialists to reduce the decline of the country's economy and ensure its recovery and development [6].

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Abstracts

ІРИНА ЧЕРНЯВСЬКА, ЛЮБОВ СКРИПНИК. Освітні втрати студентів-медиків та лікарів-інтернів першого курсу в умовах війни. Надзвичайно скрутні та важкі умови, які склалися упродовж останніх трьох років унаслідок спочатку пандемії COVID-19, а потім повномасштабного вторгнення росії на територію України, усе це негативно вплинуло на стан вищої освіти в Україні і обумовили значні освітні втрати як в учнів загальноосвітніх навчальних закладів, так і у здобувачів вищої освіти.

Щодо освітніх втрат студентів-медиків то є значними і можуть призвести в майбутньому до втрати довіри пацієнтів до молодих лікарів а відтак негативно позначитись і на якості майбутнього медичного обслуговування.

В статті проаналізовано результати проведеного анкетування серед студентів IV, V, VI курсів та лікарів інтернів 1-го року інтернатури ІФНМУ і виявлено, що найсуттєвішою проблемою

освітніх втрат впродовж трьох років навчання в складних умовах була недостатня можливість формування клінічного мислення, набуття досвіду і навиків роботи біля ліжка пацієнта, та навиків роботи в команді.

Не зважаючи на всі труднощі, необхідно й можливо мінімізувати та компенсувати освітні втрати й забезпечити якісні умови для студентів-медиків для отримання належних знань та практичного досвіду роботи з пацієнтами.

Ключові слова: освітні втрати, освітні розриви, війна, студенти-медики, дистанційне навчання.

IRYNA CZERNIAWSKA, LIUBOW SKRYPNYK. Straty edukacyjne studentów medycyny i lekarzy-stażystów pierwszego roku w warunkach wojny. *Niezwykle trudne warunki ostatnich trzech lat w wyniku pandemii Covid-19, a następnie inwazji Rosji na pełną skalę na terytorium Ukrainy negatywnie wpłynęły na stan szkolnictwa wyższego w Ukrainie i doprowadziły do znacznych strat edukacyjnych zarówno wśród uczniów szkół ogólnokształcących, jak i studentów.*

Jeśli chodzi o straty edukacyjne studentów medycyny, są one znaczne i mogą w przyszłości skutkować utratą zaufania pacjentów do młodych lekarzy, a tym samym negatywnie wpłynąć na jakość przyszłej opieki medycznej.

W artykule poddano analizie wyniki ankiety przeprowadzonej wśród studentów IV, V, VI lat oraz lekarzy-stażystów I roku stażu specjalizacyjnego Iwano-Frankiwskiego Narodowego Uniwersytetu Medycznego i stwierdzono, że najistotniejszym problemem strat edukacyjnych podczas trzyletniej nauki w trudnych warunkach były niewystarczająca możliwość kształtowania myślenia klinicznego, zdobywania doświadczenia i umiejętności pracy przy łóżku pacjenta oraz umiejętności pracy zespołowej.

Mimo wszystkich trudności konieczne i możliwe jest minimalizowanie i kompensowanie strat edukacyjnych oraz zapewnienie studentom medycyny odpowiednich warunków do zdobywania odpowiedniej wiedzy i praktycznego doświadczenia w pracy z pacjentami.

Słowa kluczowe: straty edukacyjne, luki edukacyjne, wojna, studenci medycyny, kształcenie na odległość.