ORIGINAL ARTICLE

STUDENTS' HEALTH STATUS AND THEIR ABILITY TO ADAPT TO A MULTINATIONAL UNIVERSITY ENVIRONMENT

Oleksandr A. Melnychenko[1], Viktor A. Ognev[1], Dmytro I. Marakushin[1], Inna M. Isaieva[1], Liliya V. Batyuk[1], Ganna O. Chovpan[1], Vladyslav O. Melnychenko[2]
[1]KHARKIV NATIONAL MEDICAL UNIVERSITY, KHARKIV, UKRAINE
[2]TECHNICAL UNIVERSITY OF MUNICH, MUNICH, GERMANY

ABSTRACT
The aim: Development of practical recommendations to further improve students' adaptation to a multicultural university environment as a factor in ensuring their health.
Materials and methods: The publication is based on the results of a comprehensive multi-purpose randomized epidemiological study using a standardized questionnaire. Questionnaire results (n = 355) were tested for paired correlations of all considered factors.
Results: 93,8 % of respondents positively assessed their overall health with a mode of 3 (satisfactory health). In general, students' health was not particularly sensitive to the effects of temporal and natural factors. Recommendations have been developed to improve students' adaptation to the university's multinational environment, including by preventing stressful situations. It is important that students are sufficiently informed, financially secure, and mentally prepared for student life.
Conclusions: The key to safeguarding students' health is developing their skills in adapting to a multinational university environment.

KEY WORDS: student health, adaptability, multinational environment, university, interconnectivity

INTRODUCTION
In today's society, the importance of up-to-date knowledge and skills is increasing, considering that they play an important role in obtaining high incomes and moral satisfaction from life. In the pursuit of a happy future, young people face the need to leave their parents' homes and adapt to new living conditions in another city, and sometimes in another country. This problem is particularly acute when freshmen students enter the multinational environment of leading universities [1]. Not all are prepared for the new challenges, and this often has negative health effects. The foregoing informed the relevance of this research after all.

THE AIM
Development of practical recommendations to further improve students' adaptation to a multicultural university environment as a factor in ensuring their health.

MATERIALS AND METHODS
The initial basis of the publication was the result of a comprehensive randomized epidemiological study, conducted using a standardized questionnaire (certificate of copyright registration for the work № 93548 dated 29.10.2019), where considerable attention was paid to the impact of social, economic, temporal, and natural factors on the health of

students, as well as their ability to adapt to the multinational environment of the university.

The results of the extensive questionnaire were tested for pair-wise correlations of all considered factors. For this study, a threshold of absolute 0,5 was established, i.e., values greater or equal to 0,5 and lower or equal to -0,5 were selected for further analysis. Spearman's rank correlation test was chosen to be the basis for this evaluation. This is because the vast majority of the questions were based on a Likert scale which produced nominal data with varying intervals. Therefore, measuring rank changes was deemed to be a more representative approach for the non-Gaussian data in hand as opposed to focusing on absolute changes with Pearson's correlation test. The statistical significance of the correlations was tested by the means of Fisher's exact test for pairs with binary and continuous data as well as Spearman's rank correlation test for pairs where both variables were continuous. The primary focus was on the obtained p-values which were tested for being less than or equal to 0,05.

Preliminary analysis of the obtained intermediate results allowed to: differentiate all data according to the defined criterion; disregard those that did not have a significant relationship; conduct a more detailed analysis of those that are sufficiently interconnected.

The final analysis of the survey results allowed to: identify a relatively low impact of the studied factors on the health

of students; identify the most common forms of manifestation and causes of deterioration of students' health; identify factors that that had the most significant effect on the adaptation of students; develop practical recommendations aimed at further improving students' adaptation to the university's multinational environment.

The studies were approved by the Commission on Ethics and Bioethics of the Kharkiv National Medical University and were carried out in accordance with the requirements prescribed in the Helsinki Declaration of the International Medical Association «Ethical Principles of Medical Research with the Participation of People as the Object of Study», the Law of Ukraine on Personal Data Protection. All participants gave written informed consent.

RESULTS

The respondents were 355 adults (aged 18 to 27) who study at Kharkov universities; 31,3 % – men, 68,7 % – women; 36,3 % live in their parents' house, 39,2 % – in a dormitory, 24,5 % – in rented housing; 8,5 % had previous experience of living outside the family in another country, 46,5 % – in another city, 7,0 % – with another family, 38,0 % – had no such experience at all.

The generalized results of the survey revealed the following:

1) 93,8 % of respondents positively assessed their overall health with a mode of 3 (satisfactory health). Additional optimism arose from having only a single "critical" assessment. At the same time, respondents with generally good health (which is quite natural for young people) did not use negative assessments of its individual components, and as their health self-evaluation decreased, they increasingly complained of certain health issues.

2) Respondents especially frequently visited a neurologist (33,0 %) and complained about anxiety (53,5 %), irritability (51,0 %), depression (52,4 %), memory impairment (29,6 %), and tremor (27,3 %) due to grief for parents (57,7 %), as well as due to significant psychological stress in the first days of university (associated primarily with uncertainty about residence, organization of life, education, etc.) and as they approached their examination period (an unsatisfactory grade would be a reason for re-taking the exam and could even be a threat to the continuation of studies; in contrast, a high grade would bring them moral satisfaction and improve the prospects for successful employment, etc.).

3) Students' health was mostly insensitive to the effects of temporal factors (season, day of the week, time of day) (r = 0,54) and natural phenomena (solar activity, atmospheric pressure, air temperature) (r = 0,51). At the same time, 26,2 % of respondents had ENT diseases and complained of fever (23,1 %), cough (22,5 %), and sore throat (20,3 %).

4) High and partly un-optimized (over time) study load led to fatigue (85,3 %), palpitations (32,1 %), and weight loss (29,1 %); at the same time, sedentary lifestyle and a significant amount of time spent at the computer – led to back pain (45,9 %), sore legs (30,7 %), as well as vision loss (31,0 %).

5) Despite the lack of a close relationship (r = 0,30) between the level of health of students and their ability to adapt to a multinational environment, there were still isolated cases where individuals (mostly freshmen) found themselves in situations (mostly not directly related to student life) which negatively affected their health, namely:

Injuries and damage of varying severity as a result of fights with other people (in particular, due to the inability to avoid conflicts arising from material, moral, or other grounds), getting involved in a car accident or other emergency.

Alcohol and drug abuse are form of addictions that have a detrimental effect on health and can even be fatal.

6) Adaptation of students to the multinational environment of the university depends on their ability to respond to the following factors:

Better adaptation to living conditions at the university was facilitated by the presence of previous experience of self-sufficiency (financial, household) (r = 0,54), living in a metropolis (r = 0,53), ability to find new friends (r = 0,50), and support university administration (r = 0,50).

As financial independence grew, students were increasingly making decisions on their own (r = 0,55) which made it easier to adapt to external factors (r = 0,58).

The presence of previous experience of living in another family (most often, disorderly sexual life) increased the frequency of sexually transmitted diseases (r = 0.62), negative consequences of abortion, etc.

7) If we disregard the congenital malformations acquired before entering the university, diseases, and consequences of emergencies, the main threat to the health of students is stress. It can arise due to many reasons: study, work, lifestyle, household, nutrition, personal life, emotions, etc. Even though it is virtually impossible to avoid stress completely, one can attempt to avoid stressful situations as much as possible or otherwise, at least try to minimise its negative impact.

DISCUSSION

As of now, many theoretical concepts and practical recommendations have been accumulated to address pressing issues in this area. For instance, L. Katrushova, S. Yalanska, L. Rudenko, O. Katrushov used the Hall's test (EQ test) to evaluate the dynamics of the development of emotional intelligence in the process of psychological adaptation and socialization of foreign students" [2]. L. Cao, T. Zhang developed a structured interview to identify the impact of social networking adaptation on the learning process, which is a forum where students and teachers can communicate informally on both educational and personal issues [3]. Z. Latipov, A. Ziyatdinov, L. Demidova, V. Gerasimov, M. Zaostrovtseva – interviewed foreign students about their psychological, social, and ethnic adaptation to learning and communication [4]. R. Birzina, D. Cedere, L. Petersone – designed an e-questionnaire to identify

institutional and personal factors in adapting freshmen to university (in particular, the level of knowledge in "basic" disciplines, as well as the ability to learn independently [5]. However, their use should be considered and taken into account as regards the specifics of the contingencies of a particular university.

The generalisation of the achievements of leading scientists and the results of their own research on this issue allowed to develop practical recommendations aimed at further improving the adaptation of students to the multinational environment of the university:

1. *For prospective students:* To be motivated to learn and be able to master new knowledge; to acquire skills of self-control and independent decision-making, and to be ready to be responsible for the consequences; to take care of oneself and one's loved ones; to be able to establish contacts, communicate and avoid conflict situations, and navigate the environment of a metropolis; to be able to organise their own lives (cook, clean the room, wash and iron things, etc.); to be financially literate (rationally allocate a limited budget; choose the necessary goods / services at the best prices; respect parents' money); to be able to choose comfortable clothes / shoes depending on the weather, season, and dress code; to develop (if possible, to achieve success) in the non-academic field (sports, art, etc.); to acquire proficiency in foreign languages (primarily English); to establish the dream image of the future, choose a university and a degree, and with that – the scale and energy of the city (country); to assess the likely cost in terms of time, effort, and finances to obtain the desired qualification.

2. *For students:* To avoid the illusion of "permissiveness" and realise that from now on they carry most of the responsibility for their actions or inaction; to not panic, but be ready for the worst and hope for the best; to choose and furnish the apartment taking into account financial capabilities, comfort, and logistics; to optimise the household routine (cooking, cleaning, washing and ironing, etc.); to establish good relationships with neighbours and classmates; to find a circle of like-minded people (with similar background, interests, and financial capabilities) some of who are likely to become friends; not to succumb to pressure of others who encourage reckless actions (to be able to say "no"); to find a compromise in cases where there is a misunderstanding due to noise, mess, bullying, etc.; to enlist the support of classmates, curators, and others who are able and willing to help; to organise their expenses, alcohol consumption, sexual relationships; to find a balance between studying (top priority) and leisure; to realise the importance of learning for oneself and not just for grades; to choose their own format (for example, single- or group-based) and place (dormitory, library, etc.) of preparation for classes / exams; to realise that in school academic success mostly depends on the professionalism of teachers and parental support, while in university it depends on the persistence and self-discipline of the student; to systematically study the material of academic disciplines taking into account its content and the requirements by teachers, and not to "postpone" it until right before the exam period; to

segment disciplines by relevance (as they understand their professional careers); to master a foreign language for professional purposes; in case of disappointment, to be ready to change the degree course (or university); to consider work as a source not just of income but even more so of professional and life experience; to realise that part-time work can distract / hinder the main objective – getting a future profession; while factors like taboos and ambitions, lack of mastery of the language of the host country (for foreigners), overlap of study and work schedules, lack of knowledge and skills (especially freshmen) make it impossible for them to hold positions with adequate pay and attractive functional responsibilities; to optimise your own working day/week taking into account the workload (study, self-training, work, leisure), well-being, biorhythms, accumulated fatigue; to develop and use their own knowledge and skills (including non-academic) in order to gain competitive advantage and self-realisation; take care of yourself (follow the rules of hygiene, respond in a timely and appropriate manner to the deterioration of health).

3. *For parents of prospective / current students:* To be ready for changes in their own lives and the lives of their children; to encourage them to learn and be independent; to be a mentor and motivator; to support morally and materially; to promote physical, intellectual, and cultural development; to trust and accustom to the need to be responsible for one's actions or inaction, as well as to adequately respond to changes in children's lives; to help to choose a university and a degree, and also to form an image of the dreamed future; to learn to appreciate family, national, religious, and other traditions; to teach to take care of oneself and take care of one's loved ones; to promote the formation of skills in the organisation of a household, communication, finding compromises, financial literacy, etc.

4. *For the university administration:* To appoint curators from among teachers or students from higher semesters, whose mental and informational support is extremely important at the first stage of adaptation to the multinational environment of the university; at the beginning of the school year to organise meetings with freshmen (primarily to find answers to the most pressing questions, provide general information, establish communication between classmates through interactive activities, etc.); to use different platforms (university website, Instagram, Facebook, WhatsApp, Viber, etc.) to place information about the university, city, organisation of the educational process, possible options for accommodation, and leisure; to organise the educational process in such a way that students in an accessible and convenient form receive the necessary knowledge and skills (to optimise the schedule based on the complexity of academic disciplines, time and locations; to help choose elective disciplines, etc.); to organise access to the students' personal offices, constantly monitor the implementation of the curriculum; to involve student self-governance and fellow countrymen in the organisation of students' extracurricular life (to hold cultural events, sport competitions, support in solving everyday problems, promote employment and self-realization).

The results of discussions with the stakeholders allow us to assert the practical relevance of the proposed recommendations. However, the positive effect of their use can be multiplied by organising proper interaction in the chain "applicants/students – their parents – university administration". At the same time, many of the "prosaic" activities listed above should not be taken lightly, as their simplicity often proves to be the "key to success" in students' adaptation to the multinational environment of the university.

CONCLUSIONS

The key to maintaining the health of students is the development of their skills to adapt to the multinational environment of the university, including by preventing stressful situations. It is important that students are sufficiently informed, financially secure, and mentally prepared for student life. They should be assisted in this process by practical recommendations aimed at further improving their adaptation to the university's multinational environment. Further research should be devoted to the development of theoretical concepts and practical recommendations aimed at improving the health of students and, ultimately, their quality of life.

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ORCID and contributionship:
Oleksandr A. Melnychenko: 0000-0001-5021-9025 [A, B, C, D, E, F]
Viktor A. Ognev: 0000-0003-3423-9303 [A, D, E, F]
Dmytro I. Marakushin: 0000-0002-0956-9776 [A, D, E, F]
Inna M. Isaieva: 0000-0003-2941-5587 [A, B, D, E, F]
Liliya V. Batyuk: 0000-0003-1863-0265 [E, F]
Ganna O. Chovpan: 0000-0002-3619-2927 [E, F]
Vladyslav O. Melnychenko: 0000-0003-1262-2563 [B, C, D, F]

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The Authors declare no conflict of interest.

CORRESPONDING AUTHOR
Oleksandr A. Melnychenko
Kharkiv national medical university
4 Nauki av., 61022 Kharkiv, Ukraine
tel:+38-050-162-73-50
e-mail: mel_doc@ukr.net

A – Work concept and design, **B** – Data collection and analysis, **C** – Responsibility for statistical analysis,
D – Writing the article, **E** – Critical review, **F** – Final approval of the article