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A study of the institutional environment of medical universities: Perspectives from students, faculty, and administrators

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Abstract

This study aims to evaluate the strengths and weaknesses of the educational, scientific, and administrative procedures within a medical university, as perceived by those directly involved. A survey was conducted among students, teachers, and administrators from seven medical universities in Kazakhstan. The survey included a total of 12,767 students, 1,728 teachers, and 554 administrators. The findings revealed that two-thirds of the students and teachers expressed satisfaction with aspects such as clinical equipment, resource availability, access to medical equipment, and patient accessibility. In contrast, administrators generally rated the quality of clinical procedures more positively. The study also identified the need for enhanced criteria in the selection of administrative personnel, suggesting that candidates should possess an academic degree and a minimum of five years of teaching experience. Furthermore, the research highlighted the importance of establishing clear criteria for combining teaching and administrative roles and implementing regular staff evaluations. These findings provide valuable insights into the areas requiring attention to improve the overall functioning of medical universities.

Keywords: Administration; educational procedures; medical university; perceptions; staffing

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1. INTRODUCTION

One of the main conditions for creating a modern and effective healthcare system is to provide hospitals and clinics with well-educated, experienced specialists able to respond to existing and new challenges in public health and the national healthcare system (Institute of Medicine of the National Academies, 2003). Considering that the main source of future physicians, nurses, and other healthcare professionals is medical universities, it is of particular relevance to improve the quality of education and training of students in these institutions. In the Republic of Kazakhstan (RK), the main challenges facing the medical education system center on the low quality of training of healthcare workers because the current educational programs do not meet healthcare requirements. The inadequacy of practical training, the inefficient infrastructure, and the lack of human resources all contribute to inefficient management of the medical education system (Riklefs et al., 2018; Dharamsi et al., 2022).

Despite the steps taken to internationalize medical education in the RK, including the development of strategic partnerships of Kazakhstani medical universities with leading foreign universities, the expansion of academic mobility programs, the involvement of foreign university staff as teachers, among other measures taken by the nation (Riklefs et al., 2018), there is still a problem of low quality in the training of human resources for health, which reduces the effectiveness of all the reforms carried out in the healthcare system in recent years (OECD, 2018; Rizwan et al., 2023).

The experiences of leading medical schools show that only when science, practice, and education are integrated into a single program is it possible to create an effective environment for obtaining the latest knowledge and training from qualified health professionals (Bandiera et al., 2018; Lee et al., 2021). In this sense, one of the main conditions for the functioning of a medical school is the presence of university hospitals, which are medical organizations that are part of the structure of the university and usually under its direct control. Due to their unique tripartite mission, university hospitals play an important and decisive role in the quality clinical training of healthcare professionals, the promotion of evidence-based medicine, and the rapid translation of new findings into medical practice (Raus et al., 2020; Murray et al., 2022).

In the context of increasing challenges to the national healthcare system of the RK, associated with inadequate medical education and clinical training of health professionals, it is very important to improve the institutional environment of medical universities, including all educational, scientific, and clinical processes (Koikov et al., 2020; Umbetzhanova et al., 2018; Agyapong et al., 2022). Another point to consider is that corruption permeates educational institutions around the world, including most medical schools (Paredes-Solís et al., 2011) and Kazakhstan's universities. In this regard, the study of the level of anti-corruption culture in medical universities acquires special relevance.

1.1. Literature review

The institutional environment of medical schools has been the object of study by many researchers. The greatest interest is the study of the educational environment, which directly affects the foundation of knowledge and skills necessary to train health professionals. The quality of the educational environment, as assessed by students, is of paramount importance as a critical factor in their satisfaction and achievement (Ezomike et al., 2020). Specialized tools such as the Dundee Ready Educational Environment Measure (DREEM) are used to assess the educational environment (Miles et al., 2012). The DREEM includes five areas of student perceptions: learning, teachers, academic achievement, atmosphere, and social interactions.

The DREEM has been used to assess the perception of the educational environment by both medical students (Ezomike et al., 2020; Patil and Chaudhari, 2016) and veterinary students (Pelzer et al., 2014). Another valid and reliable tool is the modified system for evaluation of teaching qualities (SETQ), which has been

successfully implemented for students to evaluate the quality of teaching at medical schools, including areas of study such as learning climate, professional attitude towards students, communication of learning goals, evaluation of students, and feedback to students (Al Ansari et al., 2017). This tool is also used for self-evaluation by teachers of their teaching abilities (Lombarts et al, 2010). Along with assessment of the educational environment, there are specialized tools for measuring the quality of medical programs. For example, there is an assessment environment questionnaire (AEQ) consisting of forty items, grouped into the areas of appropriate assessment, clear goals and standards, coverage of syllabus, quantity of effort, deep approach, surface approach, quantity and quality of feedback, and learning from the examination (Hiong Sim et al., 2015).

To assess the clinical learning environment, the simple eight-item, mixed-methods Manchester clinical placement index (MCPI) was proposed. The MCPI contains quantitative and qualitative elements designed to measure key conditions for medical students' experience-based learning, the quality of the learning environment, and the training provided within it. Items in the MCPI are grouped into four themes: teaching and learning, learning environment, relationships, and organization of placements (Dornan et al., 2012; Molwantwa et al., 2019). Another tool is the clinical learning environment and supervision (CLES), which was originally developed for evaluating the clinical learning environment of undergraduate nursing students (Saarikoski et al., 2008). It also proved to be an effective tool in postgraduate nursing education (Ozga et al., 2020) and, in its adapted form, it has been used to evaluate medical students' perceptions of their clinical learning environment in primary health care (Öhman et al., 2016). Additional sub-scales for the CLES tool, such as the CLES plus nurse teacher (CLES+T) scale, have been developed for measuring the quality of nursing teachers' cooperation with the key participants in the clinical practice of student nurses (Saarikoski et al., 2008). Another useful tool is the clinical learning environment inventory (CLEI-19), which was designed to examine the satisfaction of nursing students with two aspects of clinical experience–clinical facilitator learning support and clinical learning environment (Salamonson et al., 2011).

1.2. Purpose of study

In light of the preceding challenges, the perception of medical schools by students, teachers, and administrators can support institutional initiatives to improve educational performance (Gruppen and Stansfield, 2016; Rios, 2016; Gorsky, 2016). The purpose of this study was to analyze the institutional environment of medical universities of the RK based on the perceptions of the students and the academic and administrative staff about key educational, scientific, and clinical processes in their institution's activities and the level of anti-corruption culture. To evaluate the research environment in medical schools, key stakeholders were surveyed (Gao et al., 2019), and indicators that objectively evaluated the effectiveness of scientific activities (volume of attracted funding, publications, scientific developments, etc.) (Umbetzhanova et al., 2018) were used. A search of the available literature did not reveal any single tool for assessing the educational, clinical training, and research environments that applied to students, teachers, and university administrators.

2. METHOD AND MATERIALS

2.1. Data collection tool

The study was carried out using a questionnaire distributed to students, teachers, and administrators of medical universities in the Republic of Kazakhstan.

2.2. Participants

Respondents from seven medical universities took part in the survey, including 12,767 students, 1,728 teachers, and 554 administrators. The main characteristics and roles of individual respondents in the population are described in the following section.

Students. 67.1% of respondents were students in bachelor's degree programs, 22.3% in internship programs, 6.8% in residency programs, 2.0% in master's degree programs, and 1.9% in PhD programs. The largest group of bachelor's degree students was in general medicine (47.8%) and dentistry (9.0%) programs, and in the internship specialty, general medical practice (12.7%).

Teachers. 49.1% of teaching respondents were 25 to 45 years of age (yoa), 39.7% were 46 to 60 years, 7.6% were 61 to 75 years, and 2.9% were under 25 years. The largest percentage of respondents (32.1%) from all universities had a total teaching experience of more than 20 years, 28.8% had experience from 10 to 20 years, 22.7% from 1 to 5 years, and 16.4% from 6 to 10 years. Most of the respondents did not have an academic degree in science (34.1%) or an academic master's degree (26.1%); 26.7% were candidates for a science degree, 7.2% had a doctor of science degree, and 5.8% had a PhD degree. Among teaching respondents, 55.9% held the position of teacher, 15.7% were associate professors, 10.3% were heads of departments, and 7.1% were professors.

Administrators. 62.6% of respondents were 25 to 45 years, 28.3% were 46 to 60 years, 7.6% were under 25 years, and 1.1% were 61 to 75 years. The largest share of respondents (51.9%) in all universities had from 1 to 5 years of experience in the position of administrator, 19.1% had from 6 to 10 years, 20.6% from 10 to 20 years, and 8.3% had more than 20 years of experience. Among all the respondents, 35.2% had no teaching experience, 19.5% had taught for 1 to 5 years, 15.7% for 6 to 10 years, 16.4% for 10 to 20 years, and 13.2% for more than 20 years. Most of the respondents (51.6%) did not have an academic degree in science, 30.9% had a master's degree, 10.6% were candidates for a science degree, 2.7% had a doctor of science degree, and 4.1% had a PhD. Regarding their functions in the organization, 27.1% were on the staff of the dean's office, and 25.9% were members of the academic administration staff.

The study of the institutional environment of medical universities was conducted by distributing a survey to students, teachers, and administrators to obtain a multi-sided assessment of a set of parameters, ensuring the objectivity of the assessment as well as identifying possible problems. The questionnaire was developed in the most important languages of Kazakhstan, Kazakh and Russian, using the tools DREEM, SETQ, MCPI CLES. The questionnaires were later posted online on the SurveyMonkey platform. Each questionnaire included a personal information part with questions to identify the main characteristics of the respondents, as well as questions on five additional sections: quality of the educational process, administration of the educational process and safety culture", quality of the scientific process, quality of the clinical process, and anti-corruption culture". A 10-point Likert scale was used for quantifying answers on the questionnaire, and a response of 7-10 was considered high satisfaction. The generalized structure of the questionnaires is presented in Table 1.

Table 1

Generalized structure of the questionnaire

Section	Indicators	
Personal information	Students	University name, level of program, year of study, specialty, gender
	Teachers	University name, age, gender, teaching experience, position, scientific/academic degree
	Administrators	University name, age, gender, work experience, category of administrative staff, scientific/academic degree
Quality of the educational process	• Effectiveness of the teaching methods used in the university • Objectivity of the methods of assessing knowledge and skills used in the university • Merits that you would like to see in university teachers • The most important strengths of your university • Problems of the educational process for a priority solution • Convenience of the schedule of classes at the university • Suggestions for improving the quality of the educational process	

Administration of the educational process and safety culture	• Relations within the team at your university • Ensuring the rights of students • Support of students by the university • Level of digitalization and implementation of electronic services • Regularity of taking feedback from students based on the results of educational activities • Satisfaction with the level of the educational process
Quality of the research process	• Availability of research work for students • Self-assessment of research competencies • The most important strengths of the university in science • The most hinders the research work of students • Satisfaction with the scientific process • Suggestions for improving the quality of the scientific process
Quality of the clinical process	• Appropriateness of equipment at clinical sites to training needs • Provision of the necessary facilities and other resources at clinical sites for the educational process • Access to all medical equipment located onsite in the clinical setting to organize effective training • Access to patients for clinical training in the procedures of providing medical care • Contribution of the clinical site to the implementation of quality clinical training • Suggestions for improving the quality of the clinical process
Anti-corruption culture	• Understanding corruption • Importance of academic integrity • Availability of anti-corruption units • Most common elements of corruption • Most frequent initiators of corruption • The main causes of corruption in the university • Level of response of the university administration to complaints about corruption and unethical treatment of students • Suggestions for reducing corruption in the university

A simple sampling was applied to direct the survey to a representative number of individuals, including a minimum of 250 students, 100 teachers, and 50 administrators. The questionnaire was approved by an authorized body from the Department of Science and Human Resources of the Ministry of Health of the RK. Information on the survey was sent to medical universities, and the survey was conducted from May to June 2020. The obtained data were processed by a method of variation statistics. Correlation analysis was used to determine the presence of a connection between individual responses of respondents by individual indicators (correlation coefficient (r) between the obtained indicators), the strength of the relationship: very high (r>0.9), high (r = 0.7-0.9), noticeable (pronounced) (r = 0.5-0.7), moderate (r = 0.3-0.5), relationship (r = 0.1-0.3), the direction of the relationship (positive or negative), the reliability of the correlation coefficient (Akoglu, 2018).

3. RESULTS

The institutional environment of medical schools was evaluated through surveys administered to key stakeholders to assess perceptions regarding the quality of the educational process, the administration of the educational process and safety culture, the quality of the scientific process, the quality of the clinical process, and the anti-corruption culture within medical schools. As outlined in the preceding section, the survey was administered to the three primary population sectors comprising medical universities in the Republic of Kazakhstan: professors, students, and administrative personnel. To present the overall findings of the study, the following section outlines data derived from all respondent categories, thereby facilitating a comprehensive assessment of the evaluated parameters and contributing to the validation of the results.

3.1. Quality of the educational process

The evaluation of the effectiveness of teaching and learning methods used in medical universities indicated that more than 50% of the respondents mentioned lessons in clinical settings and training in simulation centers as the most effective teaching methods, while research-based learning is given as the least effective learning method. Administrators tend to give higher scores on the effectiveness of teaching methods than students and teachers. At the same time, the study identified negative relationships in the answers of administrators and teachers to questions about the effectiveness of teaching methods, rated as 'ineffective', 'partially effective', and 'most effective', and the duration of previous teaching experience (for administrators: r = -0.19-(-0.68), $p<0.05$; and for teachers: r = -0.12-(-0.45), $p<0.05$).

Evaluation of the objectivity of the knowledge and skills assessment methods indicated that most of the respondents (>50%) answered that assessment of practical skills, analysis of clinical cases, oral interviews, and situational tasks were the most objective assessment methods. Term papers and tests were named as the least objective methods of assessment. Administrators tended to give the objectivity of the student assessment methods a higher score than students and teachers. At the same time, a negative relationship was identified in the answers of administrators and teachers in relation to evaluation of the objectivity of the student assessment method as 'objective', 'partially objective', 'most objective', and the duration of previous teaching experience (for administrators: r = -0.14-(-0.71), $p<0.05$; for teachers: r = -0.08-(-0.48), $p<0.05$).

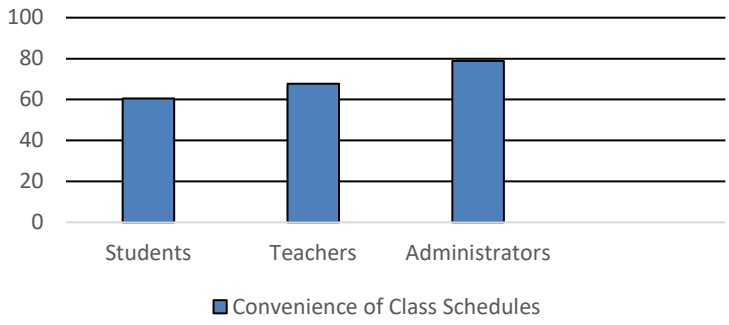
The evaluation of the merits that they would like to see in university teachers showed that the largest share of respondents (>50%) emphasized merits such as the ability to present material and possession of deep theoretical knowledge of the subject. The lowest ratings of the answers were given to merits such as knowledge of a foreign language, integrity, and goodwill.

The evaluation of the strengths of their university showed that the largest share of respondents (>50%) opted for a strong teaching staff and availability of educational literature. The smallest share of responses on evaluating strengths went to such characteristics as advanced technical equipment, convenient scheduling of classes, and modern, comfortable classrooms. At the same time, teachers and students gave the lowest score to 'participation in academic mobility programs', and students gave low scores to parameters such as availability of information about educational programs and disciplines, and free access to the Internet at the university.

About the evaluation of the educational process in terms of problems that required high priority attention, the largest proportion of teachers and students (>50%) pointed out such problems as insufficient equipment in classrooms and laboratories, and students also mentioned the insufficient provision of simulation centers with training simulators. The administrators showed the lowest percentage of positive answers for all the estimated parameters.

Figure 1

Convenience of class schedules



The evaluation of the convenience of class schedules in medical universities, about the starting time of classes, provision of breaks, sufficient time to get from building to building, etc., showed that the satisfaction level of 'sufficient' was chosen by 60.6% of students, 67.8% of teachers, and 78.9% of administrators (Figure 1). At the same time, a negative relationship was identified in the answers of administrators and teachers between indicators of the level of satisfaction with the convenience of class schedules (on a scale from 0 to 10) and the duration of previous teaching experience (for administrators: r = -0.63, $p<0.05$; for teachers: r = -0.57, $p<0.05$).

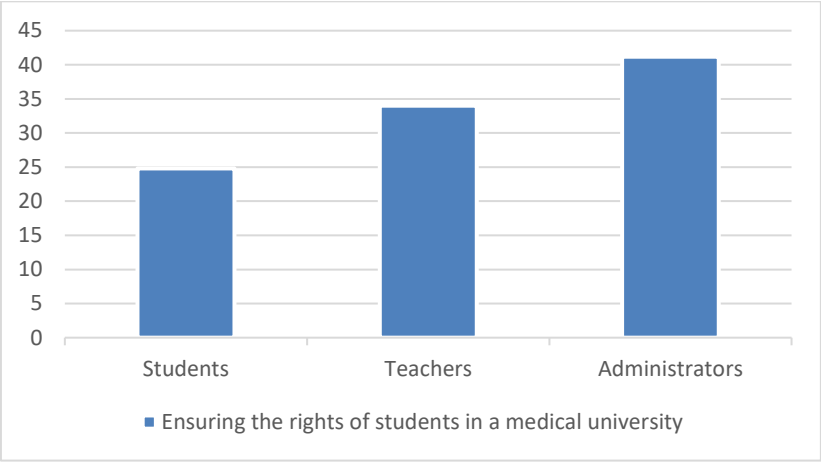
3.2. Educational process administration and safety culture

The evaluation of the relations within the medical university staff showed that more than 70% of respondents mentioned the student-to-student relationship as the friendliest. The least friendly and most tense relations, according to students, were relations between teachers and students, students and administrators (dean's office, rector's office, board of directors of the university), and students and employees of the administrative departments (library, testing center, etc.). According to teachers, the tensest relationships were between students and administrators, while administrators felt that relationships between students and administrative employees were most problematic.

As shown in Figure 2, the evaluation of how well the university did in ensuring the rights of students (the ability of the administration to solve the problems of students, the participation of students in collegial university's bodies, the possibility of meeting with the administration, etc.) showed that 24.8% of students, 34% of teachers, and 41.2% of administrators indicated satisfaction with their university's overall effectiveness in ensuring the rights of students. At the same time, the area of least compliance with ensuring students' rights was in the participation of students in collegial university bodies, according to all three groups.

Figure 2

Responses on ensuring the rights of students in a medical university

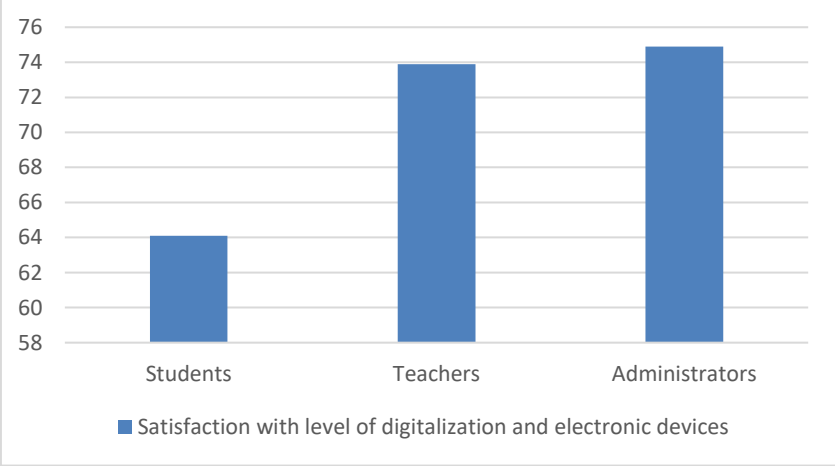


Evaluation of the availability of support measures from the university showed that more than 50% of the respondents agreed on the possibility of participating in university events. However, both teachers and administrators gave much higher evaluations of this opportunity, and also noted other opportunities such as medical care for students, measures to prevent disease in students, support of supervisors, advice on the employment of graduates, and support for student self-government. The lowest evaluation was given by students and teachers to material support, and in the opinion of students, to the support of supervisors, social support, and employment counseling. Administrators gave a fairly high evaluation for all support measures.

The evaluation of satisfaction with the level of digitalization and the introduction of electronic services showed that a sufficient level of satisfaction was chosen by 64.1% of students, 73.9% of teachers, and 74.9% of administrators (Figure 3). At the same time, a negative relationship was identified in indicators such as the degree of satisfaction with the level of digitalization and the free access to electronic services (on a scale from 0 to 10) and the duration of previous teaching experience (for administrators: $r = -0.39$, $p<0.05$; for teachers: $r = -0.48$, $p<0.05$).

Figure 3

Satisfaction with the level of digitalization and use of electronic devices

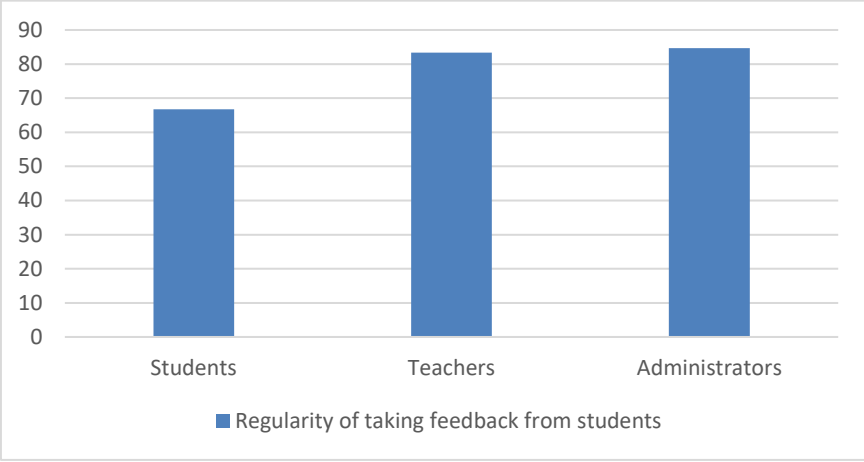


Regarding satisfaction with the regularity of taking feedback from students, the responses showed that the feedback level was deemed sufficient by 66.7% of students, 83.4% of teachers, and 84.7% of administrators (Figure 4). At the same time, a negative relationship was identified for indicators such as the regularity of taking

feedback from students (on a scale from 0 to 10) and the duration of previous teaching experience (for administrators: r = -0.53, $p<0.05$; for teachers: r = -0.22, $p<0.05$).

Figure 4

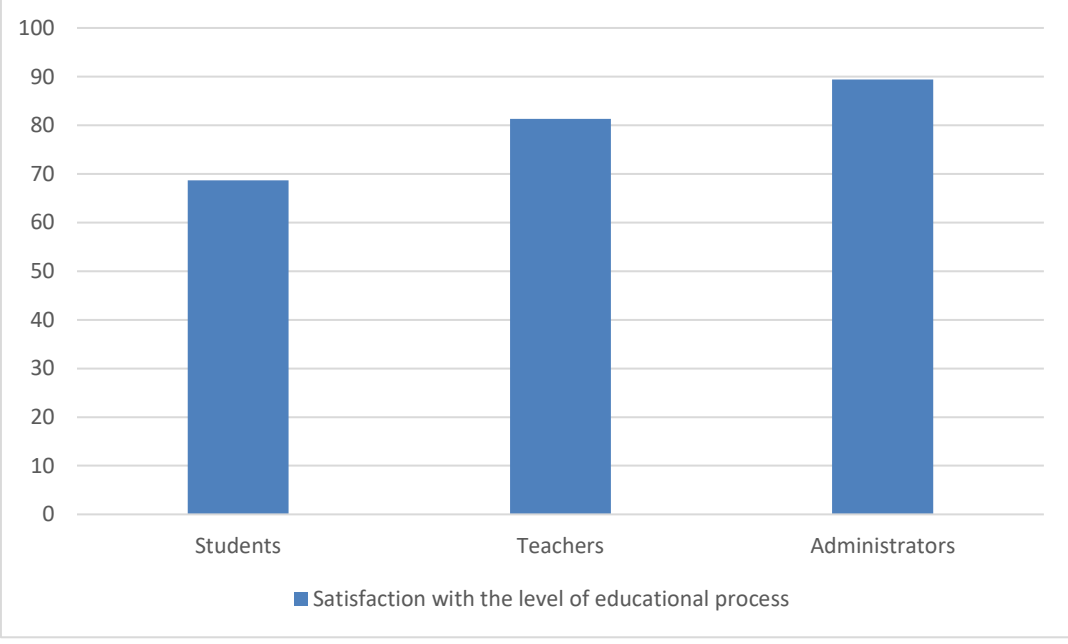
Regularity of taking feedback from students



The evaluation of satisfaction with the level of the educational process showed that a high level of satisfaction was chosen by 68.7% of students, 81.3% of teachers, and 89.4% of administrators (Figure 5). At the same time, a negative relationship was identified in indicators as the degree of satisfaction with the level of the educational process (on a scale from 0 to 10) and the duration of previous teaching experience (for administrators: r = 0.58, $p<0.05$; for teachers: r = 0.41, $p<0.05$).

Figure 5

Satisfaction with the level of the educational process



3.3. Quality of the scientific process

The evaluation of the availability of research work for students indicated that more than 50% of the respondents mentioned such forms as participation in scientific conferences at the university, participation in scientific projects in their department, work in student educational/scientific circles, and support of teachers in the implementation of research as the means to develop investigation. As the least accessible (40% or less), all categories of respondents noted dissatisfaction with opportunities to travel to scientific conferences, both near and far, while students and teachers were not satisfied with the availability of work in a laboratory.

In evaluating the level of research competence, more than 50% of teachers and administrators said that there was competence in information search capability. The smallest share of responses was positive for competence in statistical data analysis.

More than 50% of respondents among administrators and teachers answered that the strengths of their university were sufficient in science, the presence of intra-university research projects, free access to the Internet, participation in research projects with other universities, access to scientific databases, and the presence of a strong team of scientists. According to the students, no parameter scored more than 50% of the respondents' answers. The smallest share of answers, according to students, were given to such aspects as a strong team of scientists, the presence of intra-university research projects, access to scientific databases, the allocation of funds by the university for the participation of students in conferences, access to experimental animals in vivariums, and participation in scientific projects with other universities. More than 40% of the respondents among the teachers and administrators chose all the evaluated parameters.

The largest share of respondents among students and teachers identified problems in scientific work in terms of having no time for these activities. The smallest share of answers concerned lack of scientific competence of teachers.

Figure 6

Satisfaction with the scientific process

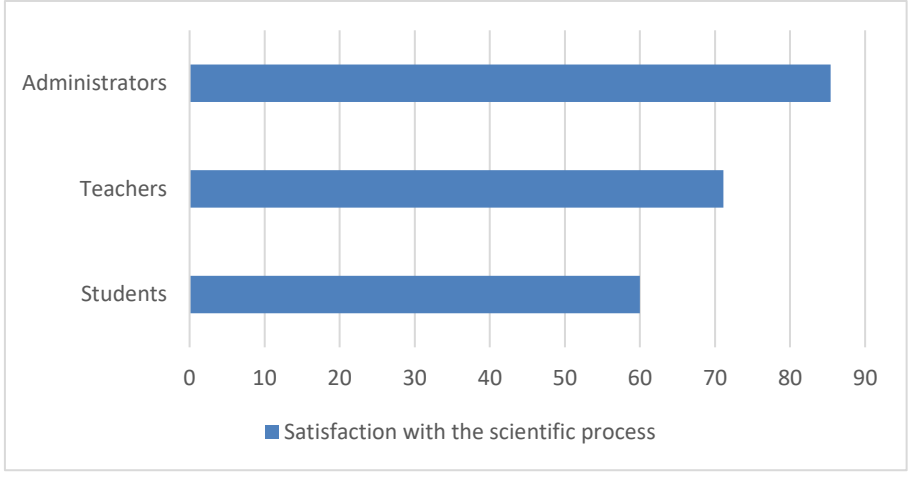


Figure 6 presents the evaluation of the satisfaction with the scientific process at the university showed that a sufficient level of compliance was chosen by 60% of students, 71.1% of teachers, and 85.4% of administrators. A negative relationship was identified for such indicators as satisfaction with the scientific process at the

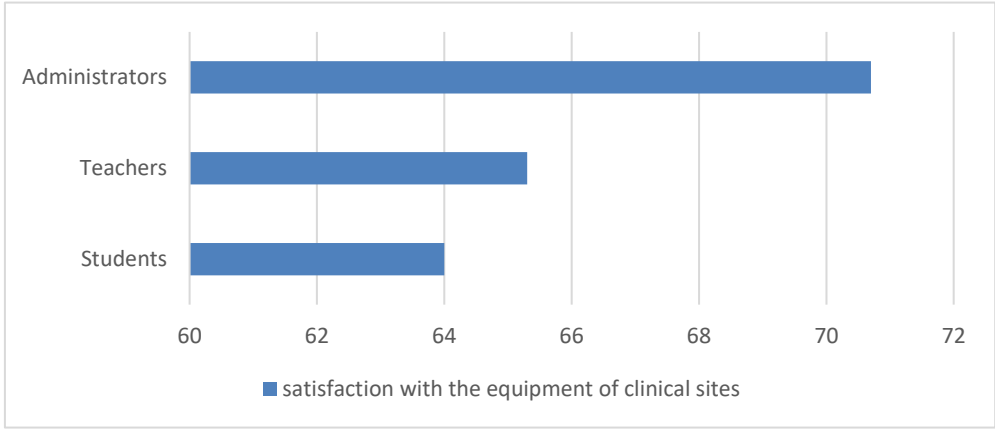
university (on a scale from 0 to 10) and the duration of previous teaching experience (for administrators: r = -0.63, $p<0.05$; for teachers: r = -0.29, $p<0.05$).

3.4. Quality of the clinical process

Evaluation of the satisfaction with the equipment at clinical sites showed that a sufficient level of compliance was chosen by 64% of students, 65.3% of teachers and 70.7% of administrators, (Fig. 7). A negative relationship was identified for indicators such as satisfaction with equipment at clinical sites (on a scale from 0 to 10) and the duration of previous teaching experience (for administrators: r = -0.65, $p<0.05$; for teachers: r = -0.32, $p<0.05$).

Figure 7

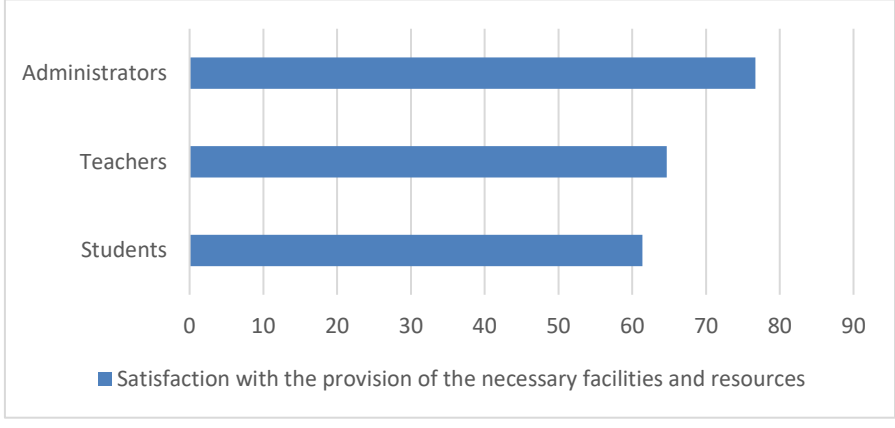
Satisfaction with the equipment at clinical sites



Evaluation of satisfaction with the provision of the necessary facilities and resources at the clinical sites showed a high level of satisfaction by 61.4% of students, 64.7% of teachers, and 76.7% of administrators (Figure 8). At the same time, a negative relationship was identified for such indicators as satisfaction with the provision of necessary facilities and resources from clinical sites (on a scale from 0 to 10) and the duration of previous teaching experience (for administrators: r = -0.66, $p<0.05$; for teachers: r = -0.51, $p<0.05$).

Figure 8

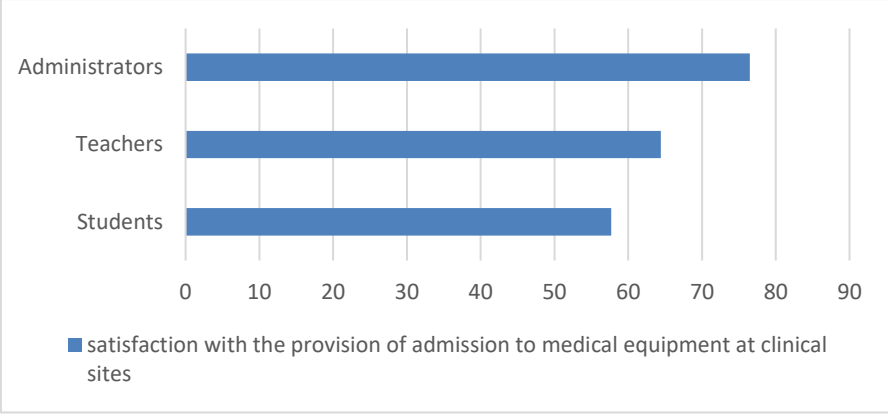
Satisfaction with the provision of necessary facilities and resources



Evaluation of satisfaction with the provision of admission to medical equipment at clinical sites showed that the highest level of satisfaction was chosen by 57.7% of students, 64.2% of teachers, and 76.5% of administrators (Figure 9). A negative relationship was identified for such indicators as satisfaction with the provision of admission to medical equipment at clinical sites (on a scale from 0 to 10) and the duration of previous teaching experience (for administrators: r = -0.42, $p<0.05$; for teachers: r = -0.38, $p<0.05$).

Figure 9

Satisfaction with the provision of admission to medical equipment at clinical sites

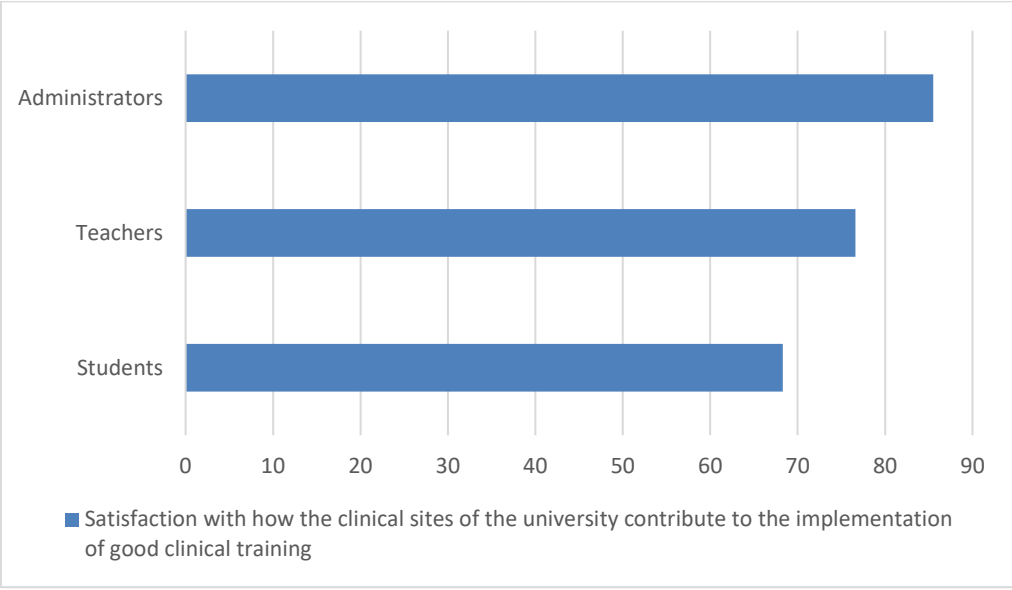


Evaluation of satisfaction with access to patients showed that a high level of satisfaction was chosen by 66.5% of students, 73.9% of teachers, and 80.2% of administrators. At the same time, a negative relationship was identified for such indicators as satisfaction with access to patients (on a scale from 0 to 10) and the duration of previous teaching experience (for administrators: r = -0.25, $p<0.05$; for teachers: r = -0.61, $p<0.05$).

Evaluation of satisfaction with how the clinical sites of the university contributed to the implementation of good clinical training showed that a sufficient level of satisfaction was chosen by 68.3% of students, 76.6% of teachers, and 85.5% of administrators (Figure 10). A negative relationship was identified for such indicators as satisfaction with how the clinical sites of the university contributed to the implementation of good clinical training (on a scale from 0 to 10) and the duration of previous teaching experience (for administrators: r = -0.31, $p<0.05$; for teachers: r = -0.54, $p<0.05$).

Figure 10

Satisfaction with how the clinical sites of the university contribute to the implementation of good clinical training



3.5. Aanti-corruption culture

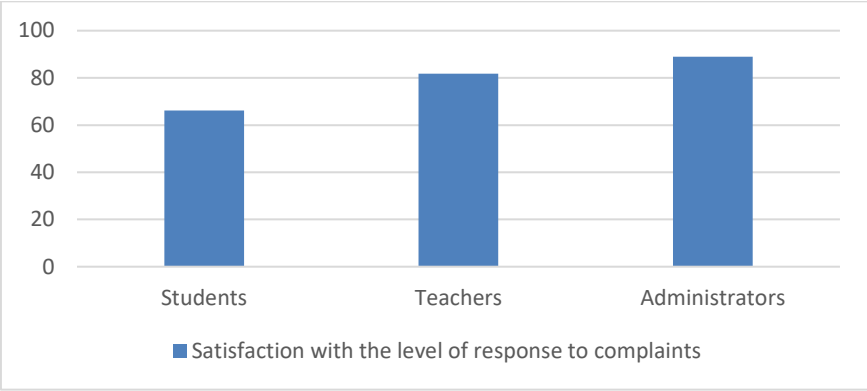
Evaluation of the situations in which elements of corruption are most often found in university showed that the largest share of answers (more than 10%) with the selection 'always' and 'sometimes' were for the following situations (in the opinion of students): when passing final exams and tests, when distributing grants, when passing intermediate exams (ratings), and when evaluating practical skills. In the opinion of teachers and administrators, no parameter scored more than 10% of the respondents' answers. The lowest share of respondents choosing the options 'always' and 'sometimes' referred to situations such as skipping classes for a non-legitimate reason when evaluating practical skills.

Evaluation of the main causes of corruption in medical universities showed that the largest share of respondents (>30%) among students and teachers noted such reasons as weak interest in studying among students, and, according to teachers, the low level of teachers' salaries. The smallest share of responses was due to such reasons as the lack of or insufficient development of electronic services and the inability to make non-cash payments for paid services provided at the university.

Evaluation of satisfaction with the level of response of the university's administration to complaints about corruption and unethical attitude showed that a high level of satisfaction was chosen by 66.2% of students, 81.8% of teachers, and 88.9% of administrators (Figure 11). A negative relationship was identified for such indicators as satisfaction with the level of response of the university administration to complaints about corruption and unethical attitude (on a scale from 0 to 10) and the duration of previous teaching experience (for administrators: r = -0.42, $p<0.05$; for teachers: r = -0.44, $p<0.05$).

Figure 11

Satisfaction with the level of response of the university's administration to complaints about corruption and unethical attitudes



4. DISCUSSION

An analysis of the qualitative characteristics of the persons who took part in the survey indicated a lack of academic achievement (as indicated by a scientific/academic degree) in 60.2% of teachers and 82.5% of administrators. In our opinion, this may hurt the quality of the educational process and the sustainable, long-term development of a medical university. The one critical factor in the adequate perception of the quality of the studied processes in this survey is the duration of previous teaching experience among teachers and administrators. This is evidenced by the fact that teachers with little teaching experience and administrators with no teaching experience or experience of short duration tended to overestimate all the parameters that characterized the quality of educational, scientific, and clinical processes, as well as the level of anti-corruption culture.

Analysis of the quality of the educational process indicated that students and teachers/administrators often gave different assessments of the same issues. Students tended to be more critical of the strengths and weaknesses of their university. An analysis of the administration of the educational process and the safety culture indicated that teachers and administrative staff gave much higher assessments of ensuring the rights of students and the level of friendliness of relations with students than the students themselves, which in itself indicated a lack of contact between teachers and administrators with students in terms of assessing their needs.

Analysis of the scientific process quality indicated that the least accessible for students' research were work in the laboratory and the opportunity to travel to scientific conferences. The responses of teachers and administrators about the perception of the strengths of their university in science differed from those of students who were much less likely to make the same choices with high frequency as strengths.

Analysis of the quality of the clinical process indicated that, on average, only 2/3 of the student and teacher respondents reported satisfaction with the type of equipment at clinical sites, the access to medical equipment at clinical sites, and the access to patients. Administrators tended to give higher assessments of the quality of the clinical process.

As the main reasons for corruption in the medical university, most of the respondents indicated a weak interest in studying among students. Teachers and administrators expressed a much higher satisfaction with the level of response of the university administration to complaints about corruption and unethical attitudes than the students themselves.

5. CONCLUSIONS

The results of the study indicate the feasibility of taking the following measures in medical universities:

1. To strengthen the selection of personnel for administrative positions in medical universities with the introduction of a mandatory requirement for at least 5 years teaching experience, the acquisition of an academic degree (PhD, or in exceptional cases, a master's degree) and specialized (medical, pharmaceutical) education for employees of the academic process administration units. According to the experience of leading world universities, it is necessary to encourage the practice of combining teacher and administrator positions, including encouraging the practice of attracting employees from teaching to administrative positions.

2. To introduce mandatory certification of the university's administrators every 3-5 years, according to clear KPI criteria that evaluate their work. Certification of administrators based on objective and transparent indicators will allow evaluation of the effectiveness of the administration in educational, scientific, and clinical processes, and take measures to improve these processes. At the same time, it is necessary to introduce programs for capacity building and career development of teachers and administrators, based on the results of their certification.

3. An effective tool for obtaining objective information for changes and improvements in future performance is timely feedback from key participants of all processes in the university. Therefore, it is necessary to ensure that feedback from students is taken regularly, as well as the conducting of surveys of teachers and administrators and other categories of employees to assess quality of the institutional environment on all key components, the quality of the educational process, administration of the educational process and safety culture, quality of the scientific process, quality of the clinical process, anti-corruption culture and quick response to problems voiced by students and employees.

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