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RESEARCH ARTICLE

Education in Anesthesiology: Crisis, Values and Perspectives

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SUMMARY
Background: The teaching-learning process is a fundamental competence in high-risk environments such as the operating room. Although conventional approaches are based on learning from negative performance, it is convenient to visualize the virtuous behavior of actors in specialties where security events are latent.
Objective: to explore through a survey the perception of crisis in the teaching of anesthesia in Mexico, and to identify the possible causes and precipitating factors.
Methods: A prospective observational design was used, prior approval from the research ethics committee. It was studied by means of a survey with 40 items to people who carry out their professional practice in the Mexican Republic. The positive and/or negative characteristics of specialists, student teachers, the educational program and work environment were explored.
Results: 1,125 participants responded. The highest percentage believed that there is a severe deficit in the teaching of the specialty, indicating in descending order the students, the work environment, and in similar proportions, the structure of the program and the characteristics of the teachers as the causes. Significant statistical differences were found in the attitude and values of the residents, in lack of adherence to educational programs, in the lack of stimuli, motivation and lack of recognition and encouragement to teachers, $p < 0.000$.
Conclusions: Our findings indicate that anesthesiologists are doing many things "right", but the existing educational deficit can be corrected to avoid an eventual crisis, suggesting a clinical practice based on evidence and values in a better environment.

Keywords: Crisis in anesthesia, working environment, educational programs, values in anesthesia.

Introduction

Techno-scientific development, safety and professionalization of anesthesiologists in recent decades have allowed a marked decrease in surgical mortality rates. In this environment, the traditional method of clinical teaching guided by a tutor allowed its validity, emerging new educational requirements that demand solid profiles in the graduates of this specialty that combine the training of good clinicians, skilled researchers, creative leaders and efficient medical managers.

The educational horizon of an anesthesia department is broad and diverse. Health personnel with various objectives and academic levels come to it in search of knowledge and skills: medical students, interns and passants, residents of anesthesiology and anesthetic subspecialties such as cardiovascular anesthesia, pediatric anesthesia, neuroanesthesia, regional anesthesia, pain management, medicine intensive care, master's or doctoral students who demand a wide educational offer that integrates a) students, b) teachers, c) study programs and d) work environment.

Currently, postgraduate medical education is considered an influential quality factor in general medical care that demands new ways of teaching and acquiring knowledge, clinical skills and interpersonal communication skills to deal with possible sentinel events, high social demand in a competitive and unsatisfactory work climate for students of the specialty. [1-3] These challenges have forced a deep cognitive update and, secondarily, objectives in the psycho-affective, social and spiritual area necessary to achieve a solid professional profile and the integral well-being of the students and graduates of this specialty.

To achieve comprehensive training, interactive teaching methods have been tested, problem-based learning, scenarios with simulated cases in crisis situations, tele-education/ telemedicine, artificial intelligence, comprehensive training of knowledge and technical skills related to congestion and attitudes, and medical education based on in competitions (CBME), without finding to date the ideal method. [4-8]

In this area, experienced professors, specialists, and prominent opinion leaders express concern about a progressive deterioration of educational indicators due to the low performance of graduates from specialization courses, low scores in university or institutional evaluations, and poor performance in the evaluations of the certifying bodies of recently graduated anesthesiologists who aspire to practice this specialty.[9]

Given this panorama and with the aim of responding to the following questions: Is there a crisis in anesthesiology education in the Mexican Republic? What factors influence it? Is a reform of the educational model necessary? This study was carried out using the following:

Methodology

A descriptive, prospective and observational study was designed to collect, through a survey, the opinions of people related to the teaching-learning process of anesthesiology in Mexico. For its validation, collecting our suggestions and recommendations was sent to five professors of courses in the specialty of anesthesia, prominent opinion leaders.

Approved by the research ethics committee of the Faculty of Medicine and Surgery of the UABJO, Reg: 0013-CEI-2018e, the survey began to be distributed on the WEB among clinical anesthesiologists, professors of university courses, anesthesia residents and subspecialties, heads of service and teaching directors; using the electronic directories of national anesthesia associations, state medical colleges, specialty certification boards, universities, and social networks of national anesthesiologists. The questionnaire remained online to be answered in the period between April and November 2021.

Information collection instrument (survey)

The application form was built with 40 structured questions with the possibility of choosing between one or more options that were grouped into seven sections. Each section contained a variable number of questions that, in the opinion of the authors and reviewers, include the main factors involved in the teaching-learning process of the specialty. For the design of the survey, the Google Forms Web tool was used, automatically eliminating incomplete questionnaires and repeated non-Mexican participants.

Sections

First section. In the opening paragraph, the objective, nature and scope of the survey was explained. requesting consent for the publication of the results for academic and/or dissemination purposes.

Second section. Composed of six questions. General characteristics of the participants: academic degree, seniority, place of residence and type of professional practice.

Third section. consists of three questions. Perception of quality and current characteristics of teaching in anesthesiology.

Fourth section. With 10 questions. Characteristics and attitudes of the students.

Fifth Section. It consists of seven questions. Characteristics of the teachers.

Sixth Section. With seven questions. Working environment.
Seventh section. Includes seven questions. Syllabus.

Analysis plan
The results were captured in an electronic data sheet, performing a univariate analysis, measures of central tendency and dispersion for quantitative variables, frequencies and percentages for qualitative variables. In the binary analysis, the X2 test was applied for nominal qualitative variables, OR with a confidence interval of 95%.

Results
The consent, acceptance and responses of 1,127 medical participants who work in one of the categories established in the Republic of Mexico, were obtained.

General characteristics of the participants
In relation to the demographic characteristics of the 1,127 respondents, 781 corresponded to clinical anesthesiologists, 183 course professors, 130 residents of various degrees of the specialty, 27 heads of service, managers related to teaching and decision-making in anesthesia.

Regarding the years of experience and seniority, 36.7% reported between one and five years, 24.9% (6-15 years), 18.2% (16-25 years) and 20.2% with 26 or more years. In professional practice, 46.2% developed only private practice and 53.8% worked in government assistance institutions and private practice, table 1.

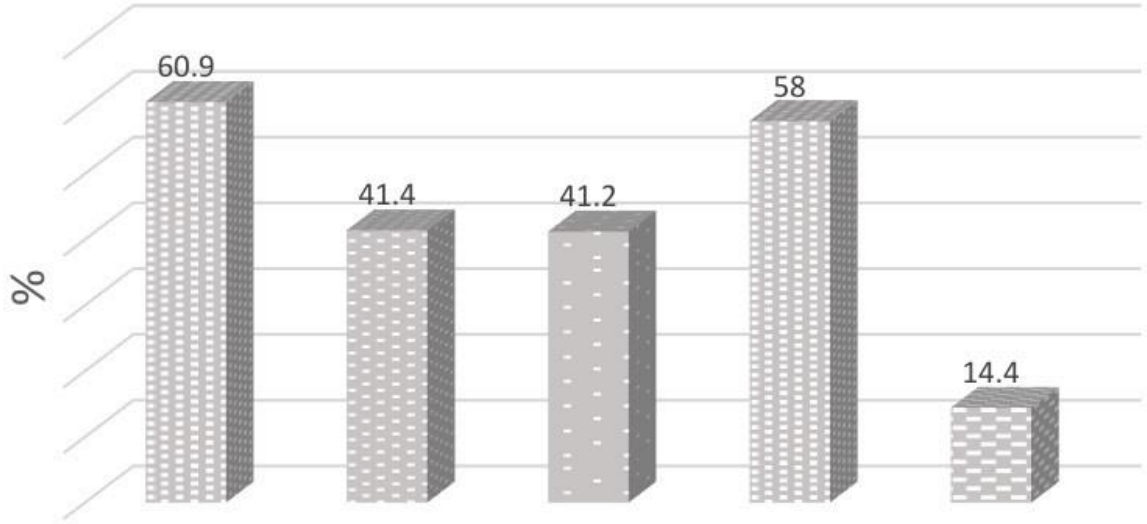
Table 1. Characteristics of the respondents

Academic Degree	N							
Anesthesiologists	781							
Professors	183							
Heads of service and executives	27							
Residents	130							
Years of clinical practice	1 & 5	6 & 15	16 & 25	> 26				
	36.7%	24.9%	18.2%	20.2%				
Professional practice	Public Insti-tución	Private	Mixed					
	80%	46%	42.9%					
Participating States	CDMX	Jalisco	EdoMex	NL	Pue	SLP	Chih	Yuc.
	20.9%	6.1%	5.9%	5.4%	4.7%	4.5%	4.4%	3.9%

N= 1121 Participants. Values expressed in percentages. States with the largest number of participants. CDMX = Mexico City, NL = Nuevo León, SLP= San Luis Potosí, Pue= Puebla Chih = Chihuahua, Yuc = Yucatán.

Responses were obtained from the 32 federal entities that make up the Mexican Republic. The states with the highest participation were CDMX with 20.9%, Jalisco 6.1%, State of Mexico 5.9%, Nuevo León 5.4%, Puebla 4.7%, San Luis Potosí 4.5%, Chihuahua 4.4%, Yucatán 3.9% Table 1.
Given the key question: Do you consider that anesthesiology education is in crisis? (826 of 1,118, 73.9%, affirmed it) and 292, 26.1%, denied it). As the main cause of the crisis, 69% indicated the characteristics of the students, followed by the work environment, the characteristics of the program and, in fourth place, the characteristics of the teachers. 14.4% indicated other causes without specifying them, figure 1.

Figure 1. Main causes of the problem. Origin of the crisis



No = 898 responses. Values expressed in percentage.

Characteristics and attitudes of anesthesia resident students

Significant statistical differences were found in the questions: Do you consider that the crisis is due to the attitude and values of anesthesiology students?[7] 65.1% affirmed it and 34.9% denied it; 65% of those surveyed indicated that the crisis is due to the attitudes, principles and values of the students ($p < 0.000$), Table 2.

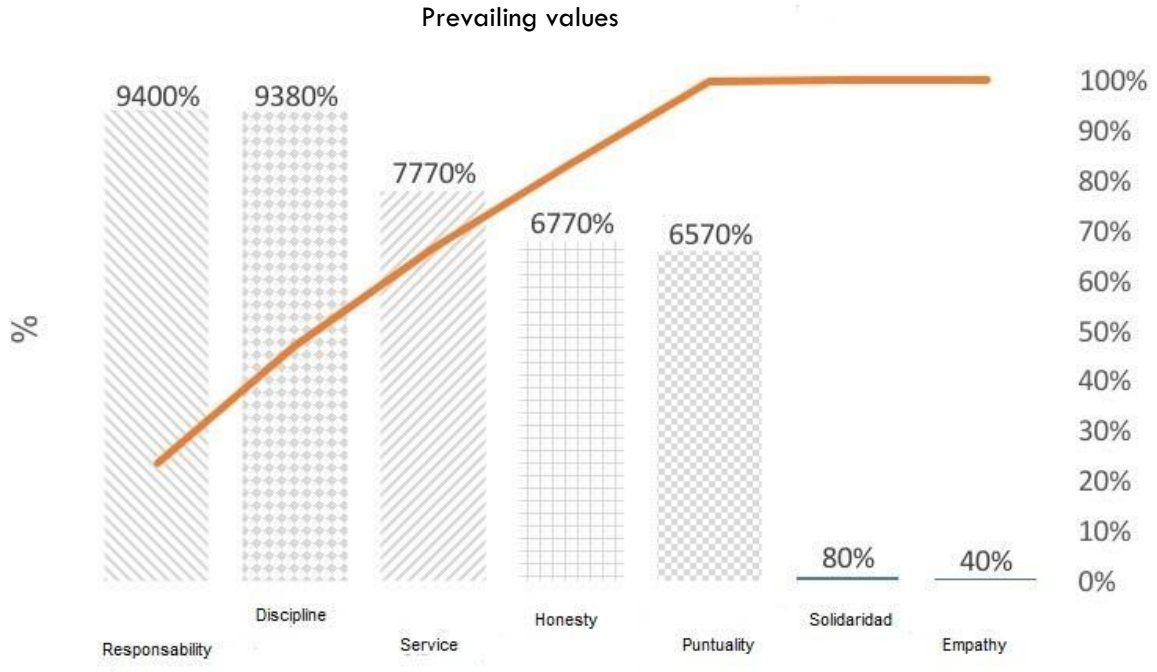
Table 2. Determinants of training in anesthesiology

Variable	Do you consider that education in anesthesiology is in crisis?		OR	*P*	I.C. 95%	
	Yes	No			Inferior	Superior
Do you consider that the crisis is due to the attitude, values and principles of anesthesiology students? **Yes N (%)** **No N (%)**	 580 (90) 239 (70)	 62 (10) 103 (30)	4	**0.000**	2.843	5.716
Do you consider that students who start the specialty in anesthesiology have the fundamental bases to develop professionally? **Yes N (%)** **No N (%)**	 235 (63) 586 (80)	 141 (38) 148 (20)	2.4	**0.000**	1.802	3.130
Do you consider the vocation essential for an aspiring resident in anesthesiology? **Yes N (%)** **No N (%)**	 746 (74) 76 (70)	 259 (26) 32 (30)	1.2	0.385	0.783	1.876
How many hours do you spend teaching anesthesiology per day? **> 5 h, n (%)** **< 5 h, n (%)**	 76 (82) 747 (73)	 17 (18) 274 (27)	1.6	0.072	0.952	2.824

Do you consider that a professor of anesthesiology should be certified? **Yes N (%)** **No N (%)**	 676 (75) 62 (71)	 223 (25) 25 (29)	1.2	0.419	0.750	1.992
Does the teaching in your hospital follow an established teaching programme? **Yes N (%)** **No N (%)**	 511 (70) 289 (88)	 223 (30) 41 (12)	3	**0.000**	2.139	4.442
What do you consider essential for an anesthesiologist to carry out his activity as a teacher: Encouragement + motivation + recognition n (%) **Motivation n (%)** **Stimulus n (%)** **Recognition n (%)**	 545 (76) 152 (69) 14 (61) 22 (73)	 163 (23) 68 (31) 9 (39) 8 (27)	1.5	**0.008**	1.108	2.061
The convenient working day for an anesthesiology resident 2 must exceed: **> 24 h, n (%)** **> 12 h, n (%)**	 465 (75) 349 (73)	 155 (25) 127 (27)	1	0.528	0.831	1.433

Regarding the type of essential values in a student of the specialty, those surveyed considered in order of importance: responsibility 94.5%, discipline 93.8%, service attitude 77.7%, honesty 67%, punctuality 65%, solidarity 49.9%, respect 0.8% and empathy 0.4%, Figure 2.

Figure 2. Essential values in an anesthesiology resident.



N = 1,114 opinions. Type of Values, expressed as a percentage.

Significant statistical differences were found in previous academic preparation (740 of 1118, 66.2% considered it insufficient) and 378, 33.8% adequate, $p < 0.000$, table 2. General medical knowledge, skills, profile and personality at admission were considered inappropriate (1013 of 1121, 90.4% of respondents) and considered that it is essential to have a vocation to study anesthesia, defining it: *as the call or inspiration to dedicate oneself to a certain activity*.

Most of the participants considered that the essential skills for an anesthesia student are intellectual abilities 88.4%, humanism 74.2%, service attitude 71.7%, initiative 66.8% and manual ability 67%.

Teacher characteristics

Their experience as professors of university or institutional anesthesiology courses, the time they dedicate to teaching, and the essential characteristics of a good professor are shown in Table 3, highlighting dedication, a positive attitude, having high expectations, and updating. Regarding the question: What characteristic do you consider essential for a good professor of anesthesiology? Significant statistical differences were found in favor of motivation ($p < 0.000$).

Table 3. Characteristics of teachers.

Teaching Experience	6 or + years	3 & 5 years	1 & 3 years			
	48.2%	39.8%	12%			
Characteristics of a good anesthesia teacher	Dedication	Flexibility and patience	Positive attitude	Open mind	High expectations	Updated
	86.7%	76.9%	74%	58.9%	31.2%	12%
Time dedicated to teaching	1 & 3 h	3 & 5 h	+ more than 5 h	-of 1 h	0 h	
	49.5%	18.9%	10%	14.3%	6.4%	
Teacher training						
Update courses (last 5 years)	5 o +	2 & 4	1	0		
	57%	28%	14%	6%		
Didactics courses last 10 years	1	Between 2 & 4	5 ó +	0		
	20.4%	24.8%	8.8%	46%		
Research Methodology Courses (last 5 years)	SI	NO				
	45.3	49.5%				

No = 988 responses. Values expressed in percentages.

49.5% reported devoting between one and three hours a day to teaching, 10.9% dedicating more than five hours, 10% mentioned not participating in teaching. In relation to the continuing medical education of the professors, 58% have received five or more knowledge update courses in the last five years, 29% between two and four courses, 8% one and 6% no course. Regarding training for teaching, 46% reported not having received any didactics or pedagogy course in the last ten years, 20% one course, 26% between two and four, and 9% five or more courses in a decade. Of the participants, 50% have not taken any research methodology course in recent years, 46% between one and three, and 5% four or more courses.

Regarding essential characteristics to perform teaching, 87% responded that dedication, 77% flexibility and patience, 74% receptive attitude, 59% openness and 31% have broad expectations. They stood out in different proportions in descending order characteristics such as being updated, commitment, professionalism, pedagogical training, general knowledge, availability of time, vocation, empathy, humanism, tolerance, respect, love for teaching, interest, humility, innovative spirit, assertiveness and discipline. Of the participants, 90% consider the

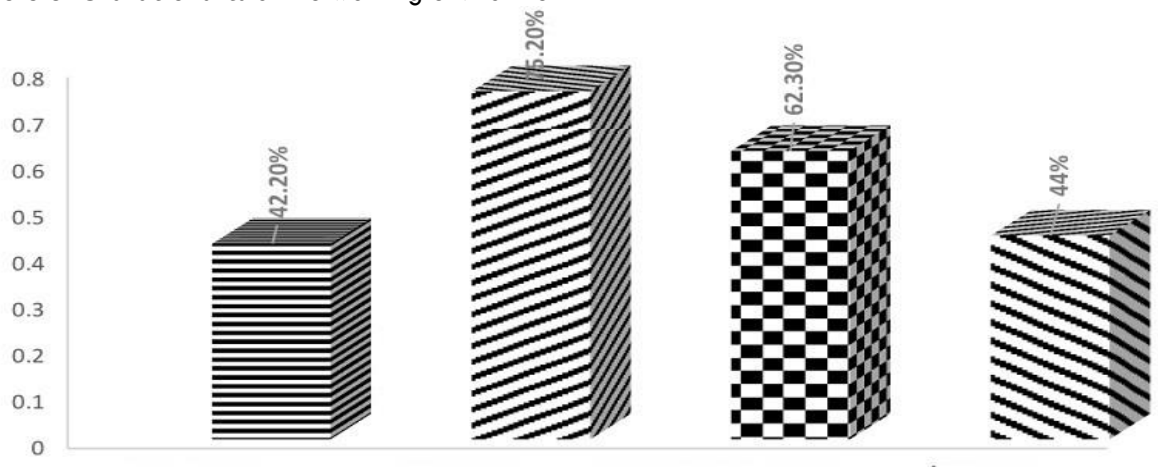
accreditation and certification of teachers an essential requirement, only 10% consider it unnecessary.

Significant statistical differences were found in the main incentives to carry out the teaching activity: personal motivation, recognition and obtaining incentives, $p < 0.008$, table 2. In the opinion of those surveyed, the fundamental objective of complementary education (guards) is learning without jeopardizing patient safety. In this sense, 83.5% thought that this activity should be tutoring or supervised, 67.2% collaborative between residents, 44.5% self-teaching and 25.7% using virtual modalities.

Working environment

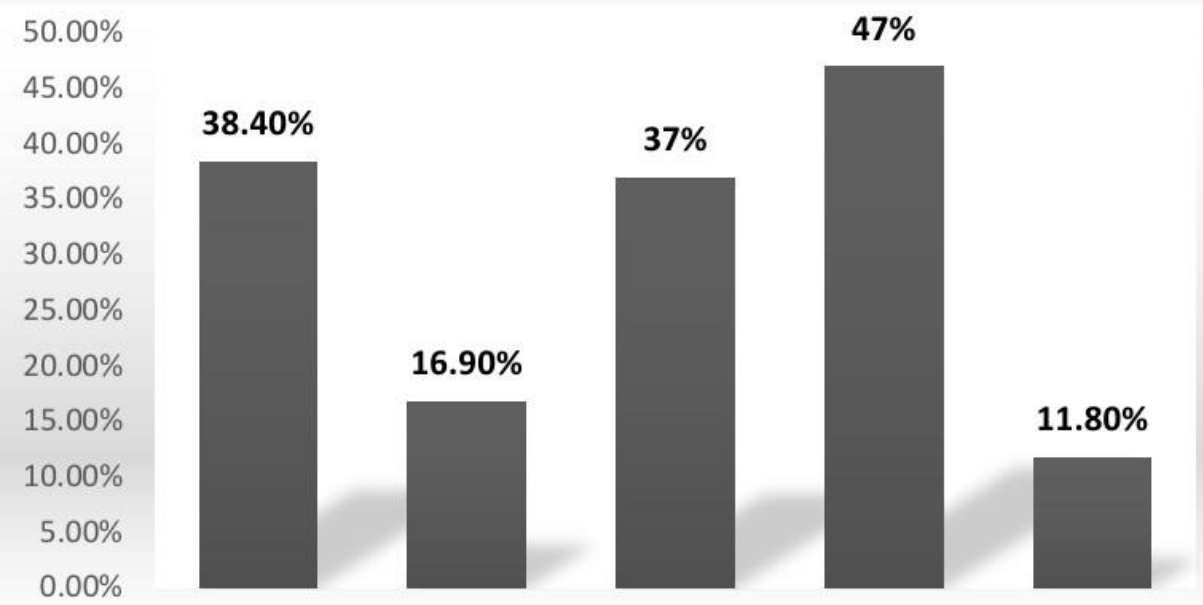
The majority of respondents consider that the current working environment does not favor the educational and scientific development of the graduate, arguing the reasons shown in figures 3 and 4. The main reasons for three quarters of the respondents is a demotivating environment, 62% devaluing, 44% an aggressive environment and 42% the presence of strenuous working hours.

Figure 3. Characteristics of the working environment.



Strenuous Demotivating Devaluation Atmosphere
Journeys Environment Aggressive
N = 786 responses.

Figure 4. Relationship between students, teachers and clinical anesthesiologists.



Indifference Independence Stimulating Authoritarian Other
No = 107 responses. Values expressed in percentage.

In the opinion of the respondents, the habitual treatment towards the resident doctor in training areas: 56.7% consider that he is friendly, 36.25% indifferent, 33.7% nurturing, 21.5% aggressive and 19.5% manipulative. Of the guards, 28.8% believed that residents are exposed to strenuous shifts and 71.2% considered them appropriate. When asked about the ideal duration of the residents' working day, 13.3% considered between 6-8 hours, 30% workdays of or more than 12 hours, 56.7% considered that it should not exceed 24 hours, coinciding just over half of the answers as ideal time 12 continuous hours.

The type of relationship between residents and anesthesia teachers is shown in figure 4. The authoritarian attitude stands out in 47%, followed by the indifferent 38.4%, stimulating 37% and only 16.9% suggest a relationship that favors independence. When asked: Do you consider that the hierarchical level is decisive for the academic and scientific development of an anesthesiologist? Consider 70% yes and 30% no. Regarding decision-making, 69% responded that they must be made by medical specialists, 47% in a consensual manner between specialists and residents, 30% responded that the resident with the highest hierarchy and 12% the directors of the anesthesia service.

Academic program

Of those surveyed, 28% answered that they were unaware of the academic program of the specialty. Those who claimed to know it, 58.8% consider that it meets what is necessary for the training of a resident doctor. 58% considered the constructivist model the best educational method, 19% the humanist one, 15% the traditional and 7% considered other models, without specifying them.

31% reported that the area where they work does not have a specific teaching program ($p < 0.00$). When asked: What would you add to the current teaching program of their hospital unit? 65.4% considered improving the promotion of skills, 63% a greater amount of scientific content, 61% ethical principles and values, and 42% humanities topics.

To the question regarding the ideal duration in years of residency in the specialty they considered: 53.3% of the opinions to be four years, 44% answered three years and 2.5% five years. Regarding the ideal proportion of contents that favor the integral development of the residents of the specialty, 96% considered intellectual abilities, 87% emotional ones, 66% social ones, 52% physical ones, 33.2% spiritual abilities and 7% others, without specifying them.

Discussion

The practice of modern anesthesia and its subspecialties face new challenges derived from the explosive techno-scientific development, an increasingly demanding and informed society, a competitive and stressful work environment, a demanding regulatory framework, scarce labor supply and low wages as a whole. an unattractive, rewarding and hopeful job horizon for recent graduates of the specialty. [9-10]

The results of the present study translate the majority perception of a gradual deterioration of the teaching of the specialty, coinciding with reports from other countries that indicate the urgent need for a comprehensive reform in study plans and programs that include all the factors participating in the study. educational process. [10-11]

The conformation of the sample studied is large, varied, and asymmetrical, and collects the opinions of clinical anesthesiologists, course professors, heads of departments, and specialty or subspecialty residents in anesthesia who carry out their professional practice in public and private hospitals. The nature of the design did not allow having a similar number of each category; however, the critical mass of 1,127 participants is translated into an acceptable point of view of the four areas of the educational process (student, teacher, program, and working environment).

The geographical location of the participants reflects the opinion of the actors in the teaching-learning process in the Mexican Republic. The numerical differences between localities can be explained by the location of the resident reception centers in the large cities of the country. It stands out that a third of those surveyed are young people with little professional and teaching experience, however this could also be considered as a strength, since it deals with the opinion of potential teachers and the desirable generational change in the country, Table 1.

The significant difference observed that considers the teaching of anesthesia in crisis, $p < 0.000$, requires a critical analysis of the causes and of each determining factor in the educational process: students, teachers, the academic program and the working environment.

The students

Although the majority of respondents expressed in the first place that the eventual crisis is due to the characteristics of the students, it could be considered an inaccurate statement due to the asymmetry of the sample, made up mostly of specialists or course teachers and, in a lower proportion, by residents who, due to lack of interest in these issues or fear of possible reprisals,

participated in a lower proportion, Figure 1. However, this result contrasts with the majority of reports that place educational programs as the main cause of the educational deficit. [12-13]

The possibility that the crisis is due to the attitudes and lack of values of the residents ($p < 0.000$) requires controlled studies that use methodological tools aimed at identifying concurrent values in teaching and work[14]. There is a majority agreement of the proferential profile of the candidates to study the specialty that highlights the vocation of service, understanding it as the call or inspiration to dedicate themselves to a demanding activity, and with few satisfiers.

Responsibility, discipline, honesty, punctuality, respect, empathy and humanism stand out, figure 2. A finding that could guide educational program developers to include in academic plans the multidimensional development of the anesthesia specialist, and cover their intellectual, psycho-affective, social and spiritual needs [9].

In the teaching of medicine, hierarchies are widely accepted, however, they reflect the persistence of old inertia that privilege cognitive abilities and techno-scientific development, and only marginally promote educational values, work, and the medical relationship. patient that make up the cornerstone of a complex specialty such as anesthesia, useful virtues in clinical decision-making and in personal life[14].

The professor

Regarding the determinant characteristics of a good teacher, indicated by the surveyed participants, dedication, positive attitude, high expectations, the need to be updated and, to a greater extent, motivation ($p < 0.00$) stand out, Table 2. Other desirable principles, virtues and values in teachers are commitment, professionalism, pedagogical training, availability of time, vocation, empathy, humanism, tolerance, respect, love for teaching, interest, humility, innovative spirit, assertiveness and discipline. Traits absent in most cases, however the responses reflect the shared desire to have teachers with a better profile.

It is worrying that the majority of opinions agree on the lack of opportunities for professional updating, teacher training and research, a situation that distances the possibility of training potential specialists who will be the next generation of teacher-researchers, who are also in charge of supervise the learning of residents and that could generate the necessary knowledge in countries with great lags. [6.8].

It is accepted that anesthesia and intensive care are challenging medical specialties due to the nature of critically ill patients, which increases the risk of side effects, complications, and life-threatening situations, demanding careful supervision by professionals with academic training experience. In this sense, the respondents report lack of interest in educational tasks, perhaps based on the erroneous assumption that education is the exclusive task of university professors. Or as a consequence of the lack of recognition and economic incentives for the personnel who carry out these tasks in clinical settings.[15].

Consequently, education based on patient safety cannot be postponed. Technological, surgical, and anesthetic advances and the growing complexity of patients demand it. Until now, the ideal safety curriculum for the anesthetized patient is based on simulation, research, the analysis of adverse events and the improvement of processes, however, technological advances, emerging educational platforms still need to be incorporated into the educational processes available, artificial intelligence, social networks, podcasts and wikis [11-13-18].

In this study, the highest percentage of participants opted for tutoring or mentoring complementary education that promotes professional growth, the development of clinical skills, fosters confidence and academic productivity, and professional success[19]. Despite the wide acceptance of mentoring, there are barriers to its general implementation such as the lack of qualified mentors, the little time dedicated to this activity and the possible lack of connection between the mentor and the apprentice.[15-17].

Other pedagogical methods to incorporate into current programs include collaborative resident teaching, self-teaching and small group learning methods, problem-based learning, an educational integrator package, simulated case scenarios, tele-education, and artificial intelligence. [18-19].

Working environment

The results of this study show two different visions of the training work environment of anesthesia students. Those surveyed consider, just over half, that the climate is friendly and nourishing; the other half describe it as indifferent, aggressive, manipulative, and exhausting. figure 3. This dichotomy shows the difficulty that exists to qualify the ideal climate to develop positive technical and non-technical skills, such as situational awareness, communication, teamwork, leadership. It has also been described that a hostile environment favors environmental distractions, unnecessary interruptions, disinterest, and favors the possibility of unfortunate mistakes [20].

According to the opinion of those surveyed, the duration of the resident's work shifts should be

eight continuous hours, without exceeding 12 hours, which contrasts with the report of strenuous shifts in poorly regulated teaching hospitals, Figure 4. This unacceptable practice, in addition to being contrary to educational ethics, is risky for the safety of patients. Regarding the indifferent, aggressive or manipulative treatment referred to by the majority of the participants, it reflects the persistence of authoritarian and paternalistic attitudes of yesteryear. However, it is encouraging that a small group of respondents describe that the environment in which specialists in anesthesia are trained is stimulating and favors independence in learning [21].

Supervised self-learning is widely accepted. In the present studies, the participants agree that acquiring complex skills requires the mentoring of specialists with ample professional experience that guarantee a safe and quality medical practice. Concept related to the assertion that decision-making in the operating room corresponds to the specialist doctor and can only be taken by the senior resident in his absence, but it could also correspond to the practice of defensive medicine in the face of frequent demands.

The encouraging result of a small group of participants who proposes that decisions should be agreed between students and teachers implies the need to foster a culture of shared responsibility and leadership development, and reduces the stress involved in making decisions in situations complex alone.

Syllabus

There is a shared desire to have an ideal program for teaching anesthesiology, testing the most outstanding educational technology strategies of the time, achieving notable scientific and pedagogical advances in the specialty, without achieving a program that guarantees the comprehensive development of the graduate student. In this study, significant differences were found among those who consider that the academic program is the main cause of academic deterioration, coinciding with various reports that indicate that the quality of educational programs is determinant to achieve a good graduate profile of the specialty [3,5,7].

Such conviction favored the shift from "traditional departmental approaches" towards the use of educational tools based on obtaining knowledge through feedback techniques, participant observation, supervised procedural skills and tutoring [8,11,17]. In the present study, the changes suggested by the majority of the respondents towards new technologies can be explained by the average age of the participants, mostly young people familiar with the regular use of new technologies in different areas of their daily lives [22,23].

It is worrying that a quarter of the participants are unaware of the existence of an academic program in their workplace ($p < 0.000$) and that only half of those who agreed to know about it consider that it meets the minimum educational standards. The disinterest reflected in these answers can be explained by the lack of stimuli and the lack of pedagogical training of anesthesiologists during their training stage, which can be remedied with the implementation of the tutorial method as an educational strategy and a program of incentives for those involved in the teaching-learning of the residents [15,16].

The suggestions for improvement, unfortunately, reflect the powerful inertia of considering that only by strengthening the academic contents can an academic program be successful, forgetting that in any educational process there must be a balance of the cognitive, social, emotional and spiritual dimensions of the student, the latter being relegated in most specialty programs. From this comprehensive and integrated vision, the suggestions include better skills, bioethical principles, values and a humanistic approach in a specialty with great demands and few satisfiers [20,21,23].

Various authors have proposed as an organizing principle of medical education and health care, in such a way that a "continuum of competencies", from graduation from medical school to clinical practice, greatly guarantees notable professional growth. The results of this study support the incorporation of new skills, the use of educational technologies such as telemedicine, tele-education, remote activities through web platforms, very useful during the covid.19 pandemic [19.22].

The ideal length of training for an anesthesiologist is widely debated. Respondents consider that the current time of three years is insufficient, most propose four years to obtain intellectual, emotional, social and spiritual skills essential for the professional practice of anesthesia.

The methodological limitations of a survey made it difficult to explore in this study the place of artificial intelligence (AI) as a tool in the educational process [23,24] the importance of recreational activities for residents and their families and the relevance of evaluation, research as an educational strategy and curricular motivator based on evidence and values that as a lighthouse guide the comprehensive training of anesthesiology students of the present and future [25,26].

Conclusions

The results of the survey suggest the existence of a deterioration in the teaching of anesthesiology that requires a comprehensive reform that gives the same weight to techno-scientific knowledge as to the development of the emotional, social and spiritual spheres of the participating actors.

Achieving this requires a self-criticism exercise that defines the responsibility of the participants, improves the programs and the work environment. An educational strategy is designed based on evidence and values that promotes the development of competence to achieve success in a challenging world of work with little personal satisfaction.

Based on the construct that postgraduate medical education is crucial in the training of developing professionals, a collective effort is required to achieve the comprehensive training of human persons with desires and needs, who are capable of providing safe and quality care, experiencing satisfaction and personal fulfillment.

Statement.

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