

**Medical education and human rights
in the medical units of Mexico:
towards a new ethical horizon**

**Educación médica y derechos humanos
en las unidades médicas de México:
hacia un nuevo horizonte ético**

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Abstract

This paper deals with the importance of medical students in responding to the demands of medical care in Mexico; alludes to the historical pro-

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cess that determines this situation and the construction of the category “doctors in training”; it refers to the working, educational and health conditions of medical students in medical units, and their impact on the quality of medical care. From an ethical and human rights perspective, it is argued that medical education programs, and in particular the category of “doctors in training”, can, paradoxically, violate both the right to education and the right to medical care, and harm both the health of students and that of the population they serve. It is concluded that a new ethical support for medical education in health care units should be developed.

Keywords: medical work, systems of health, medical ethics.

1. Introduction

The relationship between health and human rights is well established and summarized in three postulates: the violation of human rights is the cause of disease; health care programs for the population can violate human rights; and respecting, protecting, promoting, and guaranteeing human rights is a strategy for dealing with public health problems (1).

The fact that programs that respond to the needs and health problems of the population may generate disease or aggravate health care problems is, without a doubt, paradoxical. However, it is a fact and a possibility that must always be considered when designing and implementing medical education programs (2-4). Thus, it is necessary to ask whether, at present, the training of physicians in medical units (hospitals, health centers and clinics) can be, at some point, a violation of human rights and, consequently, a generator of disease? Precisely, the aim of this paper is to approach the answer to this question and to analyze its implications from an ethical perspective.

The answer to the question posed and its ethical implications will be addressed in four steps: 1) the role of interns, trainees and residents in medical units is defined, through their categorization as “physicians in training” (5) and the regulations that apply to them; 2) the theory of craft education (6) is used to explain the exhaustion,

violence and mistreatment they receive (7-9); 3) we document the impact of “doctors in training” on the processes of medical care and the right to medical care of the population, through a search of the recommendations made by the National Human Rights Commission to health institutions in which interns, trainees or residents appear involved in the violation of patients’ rights; and 4) we conclude with a reflection, from the perspective of principlism and virtue ethics, on the ethical implications of the current situation of interns, trainees and residents in medical units in Mexico.

2. Students in service as physicians in direct contact with patients

In Mexico, health care is a right. However, the full enjoyment of the right to health care has not been achieved. Evidence of this is the fact that interns, trainees, and residents are responsible for a significant part of the medical care offered by health institutions. For these institutions, more than students, they are the solution to their chronic problem of lack of medical personnel.

The medical workforce in Mexico is made up of medical professionals and medical interns, trainees, and residents (5). Since these are, officially, “physicians in training”, a subset of “physicians in direct contact with patients” as shown in Table 1.

Table 1. Number of physicians in direct contact with patients, by type and year. Mexico 2012-2021

Year	General Physicians	Specialist Physicians*	Physicians in training**	Total
2012	44,539	91,503	37,814	173,856
2013	45,683	95,964	39,621	181,268
2014	47,897	99,982	42,505	190,384
2015	48,162	110,036	44,912	203,110

Year	General Physicians	Specialist Physicians*	Physicians in training**	Total
2016	51,272	108,991	48,914	209,177
2017	50,590	110,747	51,693	213,030
2018	51,219	113,280	52,734	217,233
2019	51,692	112,951	54,665	219,308
2020	54,946	115,256	54,087	224,289
2021	56,811	116,638	60,155	233,604

* Does not include dentists or dental specialists.

** Does not include dental interns.

Source: prepared by the authors based on open data from the Ministry of Health (5).

The subset “physicians in training” is made up of medical students: interns, trainees, and residents. Interns are medical students in the penultimate year of the curriculum (generally the 5th of six years). Interns are students who perform their social service, the name by which the last year of the degree is known, and residents are general practitioners who study a medical specialty. Residents are the only ones who have the title of physician, although they are still graduate students; interns and trainees are not physicians, they are undergraduate or graduate students. Referring to interns, trainees, and residents as “physicians in training” confuses and masks the fact that they are students. Therefore, this subset is referred to in this paper as “students in service,” which, because they are officially part of the active medical care workforce, can be considered a medical workforce. However, because it is not covered by legislation and does not enjoy the prerogatives and rights of workers, it will be an informal workforce.

As can be seen in Table 1, in 2021, in-service students constitute about a quarter of the physicians in direct contact with patients; however, they work, according to the respective official standards (10,11), an annual average of 80 hours per week, and general practitioners and specialists, according to national legislation (12), have maximum 40-hour weeks. In other words, in-service students work

twice as long as contract physicians. If the number of students in service (Table 1) is multiplied by 80 hours per week, and the number of contract doctors (general and specialists) (Table 1) by 40, it turns out that students in service (Doctors in training) support more than a third of the burden of medical care in health institutions, as represented in Table 2.

That is, medical care in Mexico is met through the allocation of work hours through the formal medical market and training hours of students in service or the informal labor market.

Table 2. Number of hours* (labor or in-service training) per week (workload) of physicians in direct contact with patients, by type and year. Mexico, 2012-2021

Year	General Physicians	Specialist Physicians**	Physicians in training***	Total hours/ week
2012	1,781,560	3,660,120	3,025,120	8,466,800
2013	1,827,320	3,838,560	3,169,680	8,835,560
2014	1,915,880	3,999,280	3,400,400	9,315,560
2015	1,926,480	4,401,440	3,592,960	9,920,880
2016	2,050,880	4,359,640	3,913,120	10,323,640
2017	2,023,600	4,429,880	4,135,440	10,588,920
2018	2,048,760	4,531,200	4,218,720	10,798,680
2019	2,067,680	4,518,040	4,373,200	10,958,920
2020	2,197,840	4,610,240	4,326,960	11,135,040
2021	2,272,440	4,665,520	4,812,400	11,750,360

* Number of hours = Number of general practitioners and specialists x 40 hours per week; number of physicians in training x 80 hours per week.

** Does not include dentists and dental specialists.

*** Does not include dental interns.

Source: prepared by the authors based on open data from the Ministry of Health (5).

Certainly, the regulations governing the admission and stay of medical students in medical units establish that they must always

be supervised during their clinical activities (10,11). However, the scarce quantitative and qualitative development of the teaching staff does not allow this to be the case. Table 3 shows that in 2021 there were, in general and on average, more than 60 students in service for each physician dedicated to teaching and research.

Table 3. Number of medical students in service according to type and physicians in teaching and research activities in health institutions. Mexico, 2021

Health institution	Residents	Interns	Trainees	Teaching and research physicians	MF/MEI* ratio
Ministry of Health	9,605	6,830	8,416	737	33.7
Mexican Social Security Institute (IMSS)	19,568	4,520	1,466	28	912.6
IMSS BIEN-ESTAR	0	0	2,131	60	35.5
Institute of Security and Social Services of State Workers	1,839	294	0	19	112.3
State health services	1,105	494	79	32	52.4
Municipal health services	22	83	72	0	0.0
Petróleos Mexicanos	791	0	0	20	39.6
Ministry of National Defense	437	571	229	23	53.8
Ministry of the Navy	139	87	64	33	8.8

Health institution	Residents	Interns	Trainees	Teaching and research physicians	MF/MEI* ratio
Integral Family Development	106	0	9	31	3.7
University hospitals	812	124	262	11	108.9
National total	34,424	13,003	12,728	994	60.5

* MF = Physicians in training (Residents + interns + trainees) / MEI = Physicians in teaching and research.

Source: prepared by the authors based on open data from the Ministry of Health (5).

Furthermore, in that same year, not all medical units that had students in service included medical personnel in teaching and research tasks (5): of a total of 21,651 medical units in the country, 8,842 (40.8%) had students in service and, of these, 485 (5.5%) had doctors in teaching and research work, as shown in Table 4. Additionally, it is highlighted that 2,969 outpatient consultation units (14.7%) were attended only by students in service.

Table 4. Number of medical units according to type and presence of doctors in training and doctors in teaching and research. Mexico, 2021

Medical Unit (n = number of units)	Number of units with physicians in training	Number of units with physicians in teaching and research
Outpatient consultation (n = 20,187)	7942	64
Hospitalization (n = 1,453)	897	418
Social welfare (n = 11)	3	3
Other	0	0

Source: prepared by the authors based on open data from the Ministry of Health (5).

The lack of medical personnel in teaching and research reflects the lack of a teaching staff to support formal medical education in medical units and is an indicator of the lack of guarantee of the right to education of medical students. Even assuming an underreporting of physicians in teaching and research activities, the indicator is clear: medical education is not a formal activity in most medical units in the country.

As already mentioned, medical students in service are integrated into medical units as an informal work force. Therefore, they do not receive the prerogatives of workers, nor are they considered subjects of the right to decent work. Evidence of this is that if we consider the number of hours worked and the remuneration received by each of the categories of physicians in direct contact with patients (13), as can be seen in Table 5, we find that interns receive \$17.76 dollars per hour, residents \$61.58, general practitioners \$165.65 and specialists \$212.96. Regarding interns, there are those who are in positions without a scholarship (positions in urban areas) and others who live in rural medical units, where the schedule is eight hours a day; however, they are obliged to remain there 24 hours a day to attend to medical emergencies. They are paid around US\$8.28 per hour.

Table 5. Monthly salary/grant (U.S. dollars*) of physicians in direct contact with patients by type. Mexico, 2022

	General Physicians	Specialist physicians	Residents	Interns	Trainees
Salario-beca	\$1,320.25	\$1,703.75	\$800.56	\$230.93	\$198.82 – \$38.36

* 18.00 Mexican pesos = one U.S. dollar.

Source: prepared by the authors based on data from the Government of Mexico (13).

Medical students in service are a fundamental pillar for the functioning of medical units. In the words of one resident: ‘Speaking specifically of that hospital, without residents and interns I don’t know

how it would work. Because after four o'clock in the afternoon there is no one. There are no basic doctors' (14).

3. Artisanal medical education

3.1. Historical background

The current conformation of the group “physicians in direct contact with patients” and the emergence of the subset “physicians in training” are the result of a planning and historical process in which two facts stand out: a project elaborated in 1959 by the National Commission of Internships and Residencies A.C., and the Medical Movement of 1964-1965.

The project of the National Commission of Internships and Residencies established an educational program for recently graduated physicians and a series of budgetary and operative advantages for health institutions, such as: “continuous attention to patients, emergency services and low disbursement for the so-called “economic aid” to interns and residents” (15). It should be noted that, at that time, interns, and residents, like interns in their origin, were recently graduated physicians. But, given the labor and economic implications of doing so with graduate physicians, the program was implemented with students. That is, instead of considering hiring physicians who had recently graduated from a four-year curriculum, it was decided to expand the medical school curriculum so that interns and trainees would still be students. The afore mentioned commission justified:

Due to circumstances that are general to all the Schools of Medicine and others that are particular to our Mexican Faculties, We have that the teaching given in school is insufficient for the training of the doctor and that only after having obtained a guided and systematized hospital experience is when an adequate vision of medicine is acquired, and a true medical judgment is formed (15).

The tendency to use medical students to solve the medical care demands of the population was already being structured; these are the ones that gave rise to the social service in 1936:

The Medical-Social Service of the University, [...] is one of the most important steps [...] to know and seek the resolution of two important problems: the scarcity and, in not a few cases, the absolute lack of medical care in places with few resources, and the concentration of doctors in important population centers because of the poor distribution of these professionals” (16) (The underlining is my own).

To medical residencies in 1941:

Dr. Aquilino Villanueva Arreola, who instituted [...], for the first time in our country the Hospital Residencies, had the support of Dr. Gustavo Baz Prada, then Secretary of Public Assistance [...] the [...] resident physicians [...] had to remain on duty for 24 hours a day, while the basic medical staff worked two, four, six or eight hours; the care of patients fell, after this period of time on the resident physicians (17) (Underlining is my own).

And the medical internship in 1959:

At present, no hospital can be considered good if it pretends that its services are satisfactory only from 8:00 to 14:00 hours, but for 24 hours a day, something that has only been achieved with the realization of the system of internships and residencies... (18) (Underlining is my own).

The Medical Movement of 1964-1965 (19,20) originated in the face of the role conflict of the students in service (workers or students?) and the first signs that they would not be recognized as workers. Nonconformity was violently repressed and, in the end, the category of “Doctors in training” was imposed and consolidated. That is, although the students fought to be recognized as workers, the health

institutions recognized them as students and workers. Thus, President Gustavo Díaz Ordaz (1964-1970):

He considered an apprenticeship contract that would harm the dignity of physicians to be inconvenient, [...] he stressed that the most important thing [...] was that such a contract should be protected by the Federal Labor Law and the Law of Workers in the Service of the State, and that teaching should also be guaranteed in the same way, as a responsibility of the authorities to provide it, and of the physicians to take advantage of it (19).

Now, the students in service comment on teaching:

The working hours and remuneration of an undergraduate intern are completely outrageous [...]. Welfare work was always prioritized over academic training... (4).

The hospital staff [...] lack many values and consider the interns as vile slaves to be used to getting work done, without any dignified treatment whatsoever (4).

From the perspective of human rights, the ambiguity of roles of students in service (14) who are simultaneously students and informal workers means loss of full rights; and from pedagogy, current medical education in health care units can be considered a craft education (6), whose main characteristics are: the coincidence of the roles of student and worker in a single person; the convergence of the role of teacher with that of worker in the figure of the teacher; informal education in a scenario of daily professional work and, therefore, the absence or, if any, in non-compliance with an academic program. Under these conditions and, in general, learning occurs by routine participation in processes, with little or no reflection, without criticism and with few possibilities to modify, innovate and, in the case of medicine, to care for patients according to their biological, psychological, and social diversity.

The characteristics of artisanal education prevail in most of the medical units that have students in service. For example: over 98%

of interns, trainees and residents feel more like workers than university students (4); furthermore, 84% consider that in the medical units the care process is prioritized over the teaching-learning process and believe that teachers in the medical unit do not have adequate working conditions to fulfill their educational function (4).

For patients, the situation described above entails risks and insecurity. Their right to health is frequently violated, since they are attended by unsupervised medical students in service, who do not yet have sufficient professional competencies. According to a student in service at the end of his internship:

It is not a bad venue. However, it is conspicuous by its lack of teaching in terms of classes. On the other hand, they let you do a lot of procedures. There are very few doctors who take the time to teach you anything (4).

To that of an intern at the end of his social service:

During on-call and evening shifts there was no attending or resident doctor on duty leaving all the responsibility to the intern doctor. This was reported to and discussed with the Medical Management, without a favorable response, and was repeated throughout the entire social service (4).

In addition, because it is not properly regulated, traditional education predisposes to authoritarianism and a relationship of dominance and subordination that encourages violence (21), mistreatment and abuse (22), which are increasingly evident and frequent in medical education.

3.2 Mistreatment and abuse of in-service students

The general structure of mistreatment of medical students has been described in detail (23). In Mexico, there is numerous evidence of arbitrariness and abuse of medical students in medical units. For example, in studies carried out in the state of Veracruz (24,25), it is

reported that 80% report a lack of cordiality and respect within the medical unit; 54% report having received discriminatory treatment because of their gender, appearance or any other personal characteristic; more than one third report that during the last year they have suffered sexual or other types of harassment by superiors or colleagues, and more than two thirds report having felt anxiety or fear of being punished or dismissed during their stay in the medical unit.

Montes Villaseñor and collaborators (26) found that 87% of residents in the state of Veracruz had had at least one experience of aggression during their training as specialists and up to 50.4% reported psychological violence.

The Human Rights Commission of the State of Puebla (CDH-Puebla) (27) documented that 72% of resident physicians consider that they have been victims of acts of aggression in medical units, 81% have been victims of cruel, inhuman, or degrading treatment, 69% have suffered physical or psychological violence, and 67% consider that their human rights have been violated. In this context, it explains the recommendation that the same CDH-Puebla (28) issued in 2022, regarding the suicide of a medical resident because of workplace harassment, bullying and discrimination suffered in a public hospital in the state.

Derive (29) reports in a group of resident physicians in the State of Mexico that 84% refer to psychological mistreatment, 78% humiliation, 50% punishment guards, 40% being denied teaching, 16% beatings, 35% have been deprived of food, 21% forced against their will to consume alcohol and 21% punished with not being able to go to the bathroom during the guards:

Well, I pissed myself, what was I going to do?”. That was how Manuel, between laughter, used to end his anecdote about one of the many times he was pushed to the limit during his medical residency. His laughter always puzzled me, and once in private he told me that he remembered that time as his “temporary stay in purgatory.” “But that’s the system,” he would tell me resignedly. The only thing that can be done is to break the circle that states that “he who learns the hard way, teaches the hard way (30).

In a study of resident physicians in Mexico City, carried out by Silvia Ortiz-León and collaborators (31), it is reported that 98.5% stated that they had suffered at least one harassing behavior during the last six months. The most frequent harassment behaviors were overt intimidation and work discredit. As a result of the above, in the country, it is estimated that 89% of the residents studied have *burnout*, 71% have depression, 78% have anxiety and 58% accept that they give poor care to their patients (29).

Martín Acosta (14), has also evidenced the mistreatment and abuse, from a qualitative perspective:

The first day we were received by the head of teaching, and he started threatening us that if we did not comply with the regulations, he would expel us.

The head of service even broke my notes in front of everyone. And that is a humiliating situation.

It should be noted that the problems described above are not exclusive to medical education in Mexico. Fabiana Reborais (32) cites this type of problem in Argentina, Brazil, Canada, Colombia, Chile, Spain, Finland, Japan, Nigeria, Pakistan, and the United Kingdom. Derive (33) refers to studies on the subject in Saudi Arabia, Argentina, Australia, Canada, Chile, United States of America, France, Ireland, India, Japan, Mexico, Nigeria, New Zealand, Pakistan, and United Kingdom. In a meta-analysis including 51 studies written in English, Fnaiss *et al.* (34) estimate the prevalence of bullying among students to be between 52.0% and 66.7% (95% CI). The review by Abate and Greenberg (35) concludes that verbal, sexual, racial and gender discrimination is widespread in undergraduate and graduate medical education in the United States.

3.3. *Violence in medical education*

How to understand the extraordinary tolerance of medical students in service to violence? Violence according to the World Health Organization is:

The intentional use of physical force or power, in fact, or as a threat, against oneself, another person, or a group or community, that causes or has a high likelihood of causing injury, death, psychological harm, developmental disturbance or deprivation (36).

According to Christophe Dejours (37) it is “acting on someone or making them act in a way that, without their knowledge, puts their life or the lives of others at risk”.

It should be specified that the violence that students consent to and allow is hegemonic internal violence (38) and neural violence (39). Internal violence is the one that students in service “as members of the medical field, must accept, incorporate and naturalize” (38). This is tolerated because it is lived with during training and is, as we will see below, justified, and normalized. Neural violence refers to that which is immanent to the current socioeconomic system and to the individuals themselves; that is, violence to which there is no resistance because it is self-generated and self-imposed for the sake of efficiency and productivity.

The commonality of violence in medical education may mean that it is useful and functional to health systems. What is achieved with violence towards students in service, fear with hegemonic internal violence, self-exploitation with neuronal violence. The fear generated by internal violence is necessary to generate the subjugation characteristic of dominance-subordination relationships and thus impose work overloads (40); enough fear to accept mistreatment and abuse and not be rejected by the group and see their motivations and desires to have a title of general practitioner or specialist, and receive the corresponding social recognition, frustrated.

On the other hand, self-imposed neural violence is not perceived as such, but as a challenge. Admission to medical school and medical specialties is highly selective. Those selected form a minority who, in general, enjoy high self-esteem and social recognition. To them, violence and mistreatment are presented as challenges to their abilities and competencies. It is therefore not unusual, for example, for them to engage in competitions to see who can spend the longest time in

the hospital or the most hours without sleep. This is what Dejours (40), from an occupational health perspective, calls a collective defense strategy, which tends to minimize, if not deny violence.

On the other hand, violence has a legal basis; it is indicated in the regulations themselves. For example, the official norms establish that the complementary clinical practices of the students (guards):

On working days, they begin at the time the morning shift ends and conclude at the time established to begin the following morning shift, in accordance with the regulations of the health institution [...] Their duration on Saturdays, Sundays and holidays must be for a maximum of twenty-four hours, beginning and concluding activities as specified in the regulations of the health institution. The intern who finishes his complementary clinical practice on a working day should continue the activities described for the morning shift in the operative program (10,11).

In other words, students in service are ordered to workdays in the medical units that officially last 32 hours, with an annual average, as already mentioned, of 80 hours of work per week. In fact, interns' and residents' workdays in hospitals frequently exceed 100 hours per week (4,24,25). In the words of one intern: "Although we have an established schedule, we exceeded the limit and worked around 36 hours not so much in academic tasks but in things related to patients" (14). Thus, it is the regulations themselves that force in-service students to perform professional activities in conditions that put their lives and those of the patients they care for at risk (41,42). In the words of one resident: "It requires us to know all 80 patients 100%; two residents and three or four new interns and the truth is that no matter how much you want to, you can't" (14).

To comply with official regulations and silent disagreements, a context favorable to coercive power is required. Power relations in hospitals have been described from various perspectives. Consejo and Viescas-Treviño (43) approached them from the perspective of

Foucault and Bourdieu; Villanueva (44) and Reiborais (32), from the framework of total institutions developed by Goffman (45). From the perspective of artisanal education, hospitals create scenarios characteristic of total institutions: they are places in which apprentices are stripped of their previous identity and roles; the activities are rigorously scheduled; All their time, dedication and effort are required; In them, students in service carry out and share work, educational and social activities, consequently, they must renounce other interests, commitments and obligations. The fact that 74% of students are in medical units more than 80 hours a week and more than 97% consider that their stay in the hospital interferes with their social and family life (25), supports the idea that for students in service, medical units are like total institutions. In his own words:

To the family, I knew I was going to let them see. I knew that I was going to live only for the hospital and for the specialty... (14).

My courtship little by little deteriorated to the point of having to take a decision. These situations are so complex and complicated, and everyone decided to take their own path... (14).

As for my friends, I no longer keep track of them, nor do they keep track of me, for obvious reasons... (14).

On the other hand, the entrance to these spaces is characterized by initiation rituals, which are tests or challenges to which those who enter are subjected and whose overcoming means acceptance and integration into the group. Derive (33) describes the similarities between initiation rites and the mistreatment of residents. According to testimonies collected by Acosta-Fernandez (14): ‘He told us: you, clean up! Then we started to pick up the garbage and move the typewriters that were on the table. He pointed his finger at us and said: ‘you are the new ones, and you must understand your place as new ones’’. In a context such as the one described above, it is feasible to violate and overload students with work; in addition, fear, simulation, silence, competition, and deterioration of interpersonal relationships, among other things, are generated (37,46).

Thus standardized, contextualized, conceptualized, and understood, violence, both by medical personnel and by the students themselves, is easily acceptable and even pedagogically desirable: doctors must be trained with the character and skills to attend patients whenever necessary and under any circumstances, capable of making decisions under adverse conditions, pressure and uncertainty; Reboiras calls it the “heroic model” (32).

Certainly, such a narrative does not stand up to the slightest analysis. Accepting violence for didactic purposes implies complicity with the perpetrators and willingness to exercise and reproduce it for that purpose. That is, accepting to be violated to become part of the medical profession justifies that, in due course, medical students may be violated. This explains the resistance to change and the fact that students in the higher grades violate the newcomers or those in lower grades, justifying themselves with sentences such as “that’s the way it has always been” or “that’s the way it was for me, and it was good for me”. According to the residents:

They are unfair mainly most of my fellow senior residents. Right now, I have suffered harassment and bullying from them (I am not the only one). Very few members are disrespectful and unfair. However, there are those who just let you down even if you haven’t made any mistakes or missed work. [...] The older residents are the ones who squeeze us under the water, exploit us and demand more, without you being able to give your opinion because things are worse for you (4).

The atmosphere among internal medicine residents is very arbitrary since the most senior residents are the ones who determine the punishments. Reprimands and many times, it is without supervision of an assigned person. There needs to be greater oversight by seconded physicians over how senior resident physicians interact with junior residents (4).

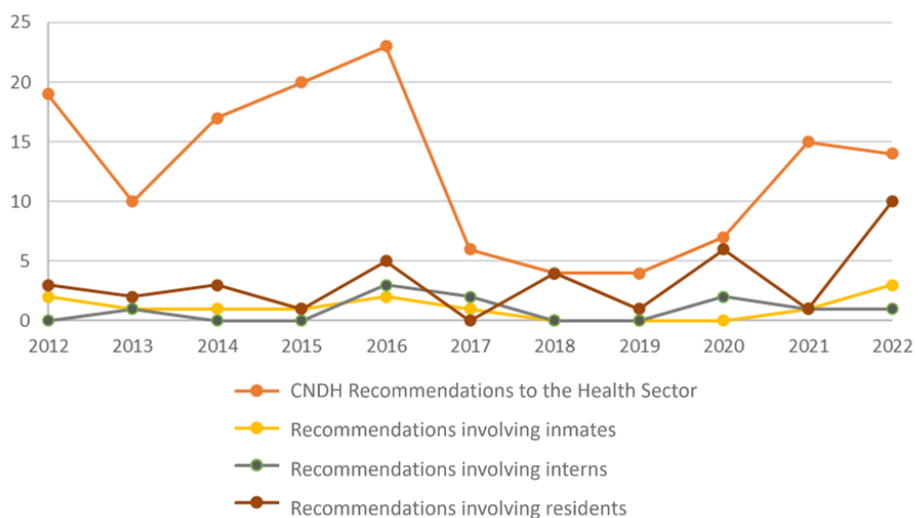
From a human rights perspective, the mistreatment of students in service is one more manifestation of violations of the right to edu-

cation, the right to work, the right to personal integrity and safety and the right to dignified treatment. And given the interdependence of human rights, it is to be expected that the health of the students in service (42) and that of the population they serve will be affected.

4. Violations of patients' human rights

Among the variables that guarantee the right to health, and, to medical care, is the quality of medical education. The fact that medical students are not supervised during their clinical activities not only violates the right to education, but also the quality of medical care and, consequently, the right to medical care and, in general, human rights. In Mexico, the National Human Rights Commission (CNDH) (47), has explicitly exposed the violation of human rights derived from medical care provided by unsupervised medical students as shown in Figure 1.

Figure 1. Total number of recommendations from the National Human Rights Commission to the Health Sector and number of recommendations involving medical students, by year and type of student. Mexico, 2012-2021



Source: Prepared by the authors based on data from CNDH recommendations (47).

In 1997, the CNDH (48) made the first explicit recommendation to the Health Sector for allowing unsupervised medical students to attend patients:

... the care in the obstetrics and gynecology service was carried out mainly by resident doctors and undergraduate interns [...] there was no proper supervision of the students' work by the assigned doctors [...], which resulted in evident complications for the patient [...].

In 2023 the same CNDH (49) issued its most recent recommendation to the Health Sector for the violation of human rights in medical units caused by the medical care provided by unsupervised medical students:

Therefore, the name of the public servants in charge of PMR1 (Resident Medical Staff), PMR2, PMR3, PMR4, PMR5, PMR6, PMR7, PMR8, PMR9, PMR10 and PMR11 should be investigated so that, if applicable, the corresponding responsibility for having failed to comply with points 5.7, 9.3.1, 10.3 and 10.5, of the NOM for Medical Residencies, in which it is specified that although medical residents are medical professionals, the fact is that they are undergoing a period of training, therefore they require supervision and guidance in their activities under the direction of their head professor, This did not happen and in the case of PMR1, PMR2, PMR3, PMR4, PMR5, PMR6, PMR7, PMR8, PMR9, PMR10 and PMR11 it had an impact on the deterioration of V (Victim)'s health.

The CNDH has made about six dozen particular recommendations on the subject in the last ten years. One might think that these point to exceptional cases. However, there is evidence that the problem is widespread. In addition to the recommendations, the CNDH (2) in 2009, made a general recommendation derived from the review of 11,854 complaints received from patients or their relatives who

considered that their rights had been violated in the country's medical units, and in which it concludes that:

The most serious problems faced by the institutions in charge of providing health services are those related to the lack of doctors, specialists, and nursing personnel necessary to cover the demand; the lack of training to elaborate efficient diagnoses and grant adequate treatments for illnesses, and the insufficient supervision of residents or interns by health personnel.

Thus, the lack of sufficient general doctors and specialists means that students are left unsupervised during their clinical activities and graduate without the skills to make diagnoses and provide adequate treatment. The interdependence between the right to medical education and the right to medical care is clear. If the former is violated, the latter is compromised.

In addition, there are several studies that confirm what the CNDH has pointed out and provide concrete data: more than 90% of medical students in service accept having made diagnostic or therapeutic decisions without the advice of professors, assigned physicians, service chiefs or medical directors of the health institution (25); more than two thirds accept having committed diagnostic or therapeutic errors due to lack of supervision and a similar proportion have committed errors due to lack of professional competencies (25). In the words of two resident physicians:

In my unit there is a colleague who has made multiple iatrogenic errors due to inexperience or lack of supervision, without being sanctioned for his actions [...] conditioning on 1 occasion death [...] So I consider that we should be [...] supervised more rigorously (4).

During my residency year I felt good. However, during the last few months we had no attending physicians to supervise us. Speaking personally, I was in the surgical service without direct supervision from an assigned physician. Fortunately, nothing bad happened or nothing was complicated. However, I do not

consider it adequate that this service is only commanded by a first-year resident (4).

5. A new ethical horizon based on teaching and care ethics

With the above, unfavorable conditions are created to meet the fundamental ethical obligation of the medical profession: *Primum non nocere*, and conducive to maleficence.

The figure of “doctors in training” emerged in the middle of the last century. It is now observed that, as proposed by the National Commission of Internships and Residencies, medical students are a fundamental pillar for medical care services in Mexico: they are responsible for more than 40% of the medical care time in the country, in exchange for a minimal economic outlay. It is suggested that the health care system with “doctors in training” must resort to violence to make it work. This has repercussions on the treatment of patients (38,50), who, in addition to being attended by unsupervised students, are the final target of violence.

On the other hand, after almost six decades of the Medical Movement, there is evidence that guaranteeing “equal teaching” was a good intention that has not yet been realized. That is, the right to education in medical units is still not fully guaranteed. As we have already seen, at present, there is only one physician in teaching and research work for every 60 students in service; most of the students are in medical units that do not have physicians dedicated to teaching and research work; and almost 15% of the outpatient units only have students to provide medical care.

Indisputably, and according to the World Medical Association (51), medical students, before having professional autonomy, must have supervised contact with patients:

Before beginning independent practice, every physician must complete a formal program of supervised clinical education. In

undergraduate medical education, clinical experiences should range from primary to tertiary care in inpatient and outpatient settings, such as teaching hospitals, community hospitals, clinics, physician practices, and other health care facilities.

The same association highlights the importance of formalizing the clinical education processes (51):

The clinical component of university medical education should use a training model with defined objectives and should include direct experiences in the diagnosis and treatment of the disease, with a gradual increase in the student's responsibility, based on his or her demonstration of relevant knowledge and experience.

In other words, guaranteeing the right to education in medical units involves, as stated by the World Medical Association, formalizing the educational process: defined objectives, formal teaching-learning processes, and ongoing evaluation. All this, under the ethical foundation of the teaching ethics of health care.

The scenarios of clinical education in Mexico have had during the last years, as in the whole world, important technological advances. However, these technical advances have not been accompanied by changes in the educational process in medical units, nor with an ethical framework of their own. The scarce, if not non-existent, development of teaching and health care ethics is striking (52). At present, medical education is developed with ethical frameworks from the late 19th and early 20th centuries.

At the end of the 19th century (1887) Dr. Liceaga (53) planned that:

The teaching of medicine, more than any other, must be essentially objective, it must be done on the sick, and all civilized nations have agreed that those who are assisted by public charity, serve for clinical teaching; this practice redounds to the benefit of the sick themselves, who are assisted more assiduously and more carefully observed.

Dr. Liceaga's approach (53) assumes that medical care is not a right, but a service for which one must pay in one way or another. Those who do not have financial resources will have to pay, obligatorily, by participating in medical education processes. The latter goes against all basic ethical principles (54,55); against justice (concentrates the burden of medical education on a segment of the population); autonomy (ignores the will of patients to participate or not in educational processes); beneficence (delegates medical care to unsupervised medical students); and non-maleficence (favors medical care with exhausted and worn-out students in service, which favors medical error). Apart from the Principlism and from virtue ethics (56) we must ask, what habits are being promoted in future physicians, and is the dehumanization of medical care not a consequence of the way in which patients are seen and treated in the environments in which future physicians are trained? Answering these and similar questions is one of the great pending and current challenges facing teaching and health care ethics.

Now, more than one hundred and thirty years later, and from the perspective of teaching ethics and medical care as a right, it is not acceptable that patients should have to pay for the medical care received with their obligatory participation in the training of new physicians. However, and in general, in the country it is still considered that patients do not have to be informed, nor do they have the right to be part of the teaching-learning process of future physicians.

The absence of teaching and care ethics is evident in many aspects of medical education in hospitals and health centers. Patient informed consent is just one of them. The supervision of students in service, the charging of places for students in service and medical care with students in service are, among many others, very little studied and discussed topics in which the ethical perspective is fundamental.

The scheme proposed by Dr. Liceaga (53) under the ethical guidelines in force at the time, which were oblivious to social inequalities and the reproduction of violence, was justified by the fact that medical education and the training of physicians were for the benefit of the patients themselves. Thus, to date, in Mexico it is taken for granted

that professors and students of medicine have no other ethical obligations before patients than those inherent to clinical work.

Since Hippocrates, it has been established as an ethical obligation of physicians to contribute to the training of new physicians (57, 58). To fulfill this obligation, it is not enough for medical students to approach a physician and see how he or she performs his or her work; a code of ethics different from that of clinical practice is required, specific to the formal teaching-learning process with patients (52).

From the ethical perspective, it can be argued that there are two models of medical education with patients: a model in which the educational and medical care processes are the same thing, are not differentiated and have ethical standards in common (artisanal model) and a model in which education and medical care are separate, and to each corresponds a different application of ethics. That is, clinical ethics is clearly separated from teaching-care ethics (52).

In 1964, before the Medical Movement began, there was a university proposal that in medical units receiving medical students, education should be privileged, prioritized, and strengthened. The educational process should always be under the baton of the university. In the words of Dr. Ignacio Chávez (59), at that time rector of the National University: “The Faculty now proposes to take charge of the specialized courses that will provide the country with the necessary specialists, under its scientific control”. The Medical Movement and its outcome prevented this purpose.

Now, from a human rights approach, it is time to retake the proposal. The presence and active participation of educational institutions, as guarantors of the right to education, in the educational processes within health institutions is a must. If universities do not assume their constitutional responsibility to protect and guarantee the right to education, health institutions will not be able to do the same with the right to health care.

It is indisputable that the current model of medical education in Mexico’s medical units is ethically and pedagogically obsolete; it violates human rights and generates illness and death. According to national and international human rights legislation, change is mandatory.

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