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Malpractice, recklessness, and negligence: physicians on the edge of ethics

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Abstract

Malpractice, recklessness, and negligence are offenses that compromise patient safety and society's trust in medicine. An analysis of cases tried by the Regional Medical Council of Minas Gerais between 2012 and 2022 revealed that, of the 1,660 doctors tried, 29.8% were accused of violations of Article 1 of the Code of Medical Ethics, and 53.3% of these cases resulted in convictions. Negligence was the most common violation, at 61.8%. There was a significant association between the variables age (p=0.009), type of complainant (p<0.001), type of healthcare institution (p<0.001), and penalty (p<0.001) and violation of Article 1 of the Code of Medical Ethics; as well as between type of healthcare institution (p=0.002) and penalty (p=0.018) and the most violated sub-items of Article 1, negligence and recklessness. In conclusion, it is essential to strengthen ethics in medical care through continuing education and institutional policies that promote responsibility and respect for human dignity.

Keywords: Malpractice. Imprudence. Codes of ethics. Ethics, medical.

Resumo

Imperícia, imprudência e negligência: médicos no limite da ética

Imperícia, imprudência e negligência são transgressões que comprometem a segurança dos pacientes e a confiança da sociedade na medicina. Análise dos processos julgados pelo Conselho Regional de Medicina de Minas Gerais entre 2012 e 2022 revelou que, dos 1.660 médicos julgados, 29,8% foram acusados de infrações ao art. 1º do Código de Ética Médica, e 53,3% desses casos resultaram em condenação. Negligência foi a violação mais capitulada (61,8%). Houve associação significativa entre as variáveis idade (p=0,009), tipo de denunciante (p<0,001), tipo de instituição assistencial (p<0,001) e penalidade (p<0,001) e a infração ao art. 1º do Código de Ética Médica; assim como entre tipo de instituição assistencial (p=0,002) e penalidade (p=0,018) e os subitens mais infringidos do art. 1º, negligência e imprudência. Conclui-se ser imprescindível fortalecer a ética no cuidado médico por meio da educação continuada e de políticas institucionais que promovam responsabilidade e respeito à dignidade humana.

Palavras-chave: Imperícia. Imprudência. Códigos de ética. Ética médica.

Resumen

Impericia, imprudencia y negligencia: médicos al limite de la ética

Impericia, imprudencia y negligencia son infracciones que comprometen la seguridad de los pacientes y la confianza de la sociedad en la medicina. El análisis de los procesos juzgados por el Consejo Regional de Medicina de Minas Gerais entre 2012 y 2022 reveló que, de los 1660 médicos juzgados, el 29,8 % fueron acusados de infringir el art. 1° del Código de Ética Médica, y el 53,3% de esos casos resultaron en condenas. La negligencia fue la infracción más frecuente, con un 61,8%. Se observó una asociación significativa entre las variables edad (p=0,009), tipo de denunciante (p<0,001), tipo de institución asistencial (p<0,001) y la sanción (p<0,001) y la infracción del art. 1° del Código de Ética Médica; así como entre el tipo de institución asistencial (p=0,002) y la sanción (p=0,018) y los subapartados más infringidos del art. 1°, negligencia y imprudencia. Se concluye que es imprescindible fortalecer la ética en la atención médica mediante la educación continua y las políticas institucionales que promuevan la responsabilidad y el respeto a la dignidad humana.

Palabras clave: Impericia. Imprudencia. Códigos de ética. Ética médica.

Research

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Medical error, as established by the Code of Medical Ethics (CEM), consists of an action or omission capable of harming patients and is classified as malpractice, recklessness or negligence, always under the aegis of the professional's personal responsibility [1]. In this perspective, Correia-Lima [2] defines it as conduct—whether by omission or commission—that is atypical, irregular, or inappropriate, practiced in detriment of patients during the exercise of medical activity, distinct from intentional misconduct. However, Brazilian case law has recognized situations in which medical error results from intentional conduct, notably when the professional acts consciously and deliberately in violation of ethical-professional duties, thereby broadening the interpretative scope of civil and criminal liability in medical care [2].

According to the same author, all legal medical error presupposes damage or harm to patients' health, with damage constituting an essential element and an indispensable prerequisite for establishing liability. Absence of damage invalidates the error, rendering the duty of reparation unenforceable and removing the incidence of civil liability. Thus, while one can admit liability without fault broadly speaking, it is inconceivable to have liability without damage [2].

According to França [3], professional failure can take two main forms: diagnostic error and misconduct. As a rule, when not resulting from obvious omission, the former is not characterized as negligence provided that the physician has observed the appropriate scientific and technical precepts [3]. Misconduct, in turn, requires a more rigorous assessment, especially in light of controversies surrounding the choice and efficacy of therapy-related methods, techniques, and protocols [3].

From another perspective, Mariani [4] emphasizes that medical responsibility is a means, not an end, hence professionals are obliged to employ all available technical and scientific resources with care and diligence, without this implying a guarantee of the desired result. Such a conception underscores that the judgment of medical conduct should consider the process and prudence employed, and not only the consequences of the professional act [4].

Given these understandings, it is pertinent to further analyze the types of medical failure that constitute professional error, notably malpractice, recklessness, and negligence. Although distinct in nature, these categories converge in the violation of the duty of care that should guide medical practice [2]. An accurate understanding of each of these is essential not only for defining the civil and ethical responsibility of physicians, but also for examining the bioethical implications that arise from physician-patient relations [2]. In this regard, the study of cases of medical error allows us to articulate the normative field of liability with the principles of bioethics and the legal foundations that underpin the duty to act with diligence, expertise, and prudence [2].

Regarding the concrete forms of expression of this error, medical negligence stands out initially, understood as an attitude that allows patient harm to occur, characterized by indolence, inertia, and passivity on the part of the responsible professional [5,6]. Negligence is marked by a failure to exercise due care, in which the physician fails to act diligently in situations that require technical and moral attention [5,6]. Such perspective highlights the responsibility of healthcare professionals not to deprive patients of real opportunities for treatment or recovery, which corresponds to the French theory of loss of chance developed by Tunc [7], Viney [8] and Chabas [9]. According to this theory, damage is not limited to adverse outcomes, involving the concrete frustration of a legitimate possibility of cure or survival [7-9]. In Brazil, authors such as Marinoni [10], Martins-Costa [11] and Cavalieri Filho [12] reveal that this theory has become part of the scope of medical civil liability to reinforce the ethical and legal duty of diligent action. From a bioethical perspective, negligence constitutes a denial of the values that guide medical practice—integrity, human dignity, altruism, otherness, dedication, and commitment [6]—and expresses a failure to provide the care necessary for patients' well-being [5].

Complementarily, malpractice and negligence are other manifestations of medical fault, equally relevant to understanding professional error. Malpractice, according to França [3], corresponds to non-compliance with technical standards due to practical unpreparedness, insufficient specific knowledge, or inability to properly exercise

the profession. França, however, warns that a legally qualified physician cannot be classified as incompetent, since professional qualification presupposes mastery of the skills essential to practice medicine [3]. But he recognizes that all professionals have limitations and that those who, aware of their unpreparedness, act irresponsibly in areas for which they are not properly qualified, are acting recklessly [3]. Of a commission nature, such conduct is increasingly more serious if it results from intentional and conscious action [3].

Medical recklessness, in turn, is characterized by a lack of caution and hastiness in clinical decisions, revealing itself in conduct marked by disregard and thoughtlessness [3]. Such behavior may manifest itself in the risk taken when performing procedures without scientific backing or without observing safety protocols, thus deviating from the expected technical and ethical standards [5].

Analyzing these types of error has its relevance reinforced by empirical data [13]. In a decade, between 2001 and 2011, the number of ethical-professional proceedings (PEP) filed by the São Paulo Regional Council of Medicine (Cremesp) against doctors for malpractice, medical error, or CEM violations grew by 302%, and the number of professionals punished increased by 180%, surpassing the 32% increase in the São Paulo state's medical population [13].

Despite several studies pointing to a high incidence of ethical proceedings involving patient harm—especially those related to negligence, malpractice, and recklessness—there remains a significant gap in the literature regarding the systematic analysis of these infractions within Brazilian medical practice [14-17], underscoring the need for more robust empirical investigations to understand the bioethical dimensions of the issue.

Given the relevance and complexity of such violations, this study analyzes, from a bioethical perspective, ethical-professional cases judged by the Minas Gerais Regional Council of Medicine (CRM/MG) between 2012 and 2022 relating to malpractice, recklessness, and negligence cases, to understand the extent to which such conduct violates the values and principles that guide medical practice and the duty of care. Specifically, the investigation identifies and discusses the ethical and moral implications of the behaviors observed while evaluating the role of ethical bodies in promoting a culture of responsibility and respect for patients' fundamental rights.

Its relevance becomes clear when considering that Minas Gerais state has the third largest medical college in Southeastern Brazil, with 70,835 professionals, surpassed only by São Paulo (182,852) and Rio de Janeiro (74,107) [18]. This scenario gives the study additional relevance insofar as it contributes to understanding ethical violations in medical practice and fills a substantial gap in the specialized literature.

Method

This is a documentary, cross-sectional, retrospective study of a descriptive-analytical nature, with a predominantly quantitative approach and directed categorical analysis applied to the judgment of cases involving article 1 of the Code of Medical Ethics (CEM). Its retrospective design stems from the use of past administrative records (2012-2022); the cross-sectional approach indicates that all data were analyzed at a single time, without longitudinal follow-up.

Study scope included all 1,660 physicians tried under the CRM/MG between January 1, 2012, and December 31, 2022, regardless of the CEM articles involved or the proceedings outcome.

As for the sample, it consisted of physicians whose trial showed evidence of violation of article 1, that is, falling under the categories of malpractice, recklessness, and/or negligence, violations analyzed individually or in combination. After applying the eligibility criteria, the sample included 495 physicians who faced situations involving the application of article 1.

Secondary data were sourced from the institutional database of the CRM/MG's Ethical and Professional Practices Sector, previously collected and systematized by the sector's technical team. Access was granted by formal authorization from management, after anonymization and prior filtering of sensitive information by the CRM/MG team, in accordance with the General Personal Data Protection Law (Law 13,709/2018) criteria [19]. Thus, the study sample consists exclusively of documentary and administrative

information relating to ethical-professional proceedings concluded by December 31, 2022, related to evidence of violation of article 1, with no primary data collection or direct contact with the professionals tried.

All PEPs concluded from 2012 to 2022 involving allegations of negligence, recklessness, or malpractice (individually or in combination), ruled by CRM/MG chambers (panels of 11 councilors) and with a decision available, were included. Incomplete PEPs (missing essential metadata/proceedings information) not concluded by December 31, 2022, were excluded.

Evaluated sociodemographic variables included gender (female or male), age of the physician at the time of reporting (≤30 or 30-50 or >50 years), time practicing medicine (≤10 or 10-20 or >20 years), specialty (specialists in a certain or general practitioners area at the time of the events), legal nature of undergraduate schools (private or public), and federal unit (UF) of the undergraduate school (Minas Gerais, Rio de Janeiro, Espírito Santo, and others).

Contextual-procedural variables encompassed type of complainant (CRM/MG ex officio or physician or patients and family members/legal entity), place of incident (capital or countryside), legal nature of the place of incident (private or public), culpability (no or yes), penalty (confidential warning: A; confidential censure: B; public censure: C; suspension from professional practice for thirty days: D; revocation: E), and appeal to the Federal Council of Medicine (yes or no, and whether the penalty was upheld, reduced, or increased).

CEM normative variables included the types of offenses related to article 1—negligence, malpractice, and recklessness—individually or in combination.

Descriptive analysis reported absolute/relative frequencies for categorical variables, and central tendency and dispersion measures for continuous variables, according to distribution.

A thorough and exhaustive analysis investigated the interactions between sociodemographic and contextual-procedural variables and violations of article 1 to identify any significant statistical correlations. Subsequently, these variables were cross-referenced with the most frequently violated sub-items of article 1—namely, "negligence" and "recklessness and negligence" and "recklessness"—to investigate the interrelations and explore the nuances that might emerge from this context. This procedure was undertaken to further understand the factors that could influence violations of these ethical precepts and conduct a robust and detailed analysis of the aspects involved in medical conduct in light of professional ethics.

Association between variables was analyzed using the chi-squared test of independence, with a 5% significance level, to ensure the robustness and statistical validity of the results [20-23]. This methodological approach sought to ensure that all data-drawn inferences were duly supported by consistent statistical evidence, reinforcing the credibility of the conclusions obtained. All analysis were performed on RStudio [24].

A retrospective documentary design is suitable for reconstructing patterns of conduct already judged on the basis of official administrative evidence. The cross-sectional approach enables mapping and analyzing the set of cases from the period. The more inferential descriptive combination allows classifying the types of error, correlating them with attributes of the processes/professionals, and discussing their bioethical implications—which directly helps examine how such conduct violated CEM duties and bioethical principles.

This project is linked to a thesis approved by the Ethics Committee of the University of Porto.

Results

Among the 1,660 physicians submitted to trial in Minas Gerais, 495 (29.8%) incurred in situations that involved application of article 1 of the CEM. Of these, 264 (53.3%) were found guilty of actually violating the aforementioned normative provision. Of the physicians subjected to trial under the article, 20% were women and 80% were men, with an average age of 46.3 years, ranging from 24 to 77 years. Most of complaints involved doctors aged 30 to 50, at 45%, followed by 41% over 50 years old and 19% under 30.

In terms of experience, average time since graduation was 19.8 years. Complaints were most associated with physicians who had been

practicing for over 20 years (47%), followed by those with less than 10 years (31%) and those with 10 to 20 years (12%). Physicians without a registered specialty were most prevalent (38%), followed by gynecologists/obstetricians (17%), general surgeons (12%), and occupational physicians (9%). Regarding education, 51% graduated from public institutions and 72% from the state of Minas Gerais.

Most complaints were issued by patients and family members/legal entities (52%), followed by official complaints (44%) and complaints from physicians (4%). Most violations occurred in the countryside of Minas Gerais (77%), and public institutions accounted for more complaints than private ones (75%).

As for the violations of article 1, negligence was the most frequently cited (61.8%) of the total cases, but was proven in only 49.2% of the instances. Violations characterized as recklessness, "negligence and malpractice," and "malpractice and recklessness" had confirmation rates of 71.4%, 72.7%, and 75%, respectively. Malpractice was proven in only 20% of cases.

Regarding the CRM/MG decisions, negligence and malpractice showed a higher acquittal than conviction rate—50.8% and 80%, respectively—whereas all other violations related to article 1 showed higher conviction than acquittal rates, with the highest conviction rates for "negligence and malpractice" and recklessness, at 72.7% and 71.4%. As for the types of conviction, negligence (18%), recklessness (42.9%) and "negligence and recklessness" (25.6%) had the highest number of cases punished with public censure. Negligence resulted in the most license revocations, totaling 0.9% of occurrences.

Regarding appeals filed with the CFM, negligence showed a 62.7% non-appeal rate, similar to most violations of article 1 and its associations. Conversely, associated infractions—"malpractice and recklessness" and "negligence, malpractice and recklessness"—registered higher rates of appeal requests, with 62.5% and 80%, respectively.

Regarding the outcome of appeals filed with the CFM concerning negligence, in 66% of cases the decision issued by the CRM/MG was upheld, similar to most other infractions related to article 1 and its respective associations. On the other hand, violations related to "malpractice and recklessness" and "negligence and malpractice" revealed a distinct pattern, with the CFM opting to mitigate the penalty in 75% and 100% of cases, respectively. Additionally, the only violation for which the penalty was increased was negligence, with an incidence of 6.4%.

As for the association of variables, significant association was observed between age group (p=0.009), type of complainant (p<0.001), legal nature of the place of incident (p<0.001), penalty (p<0.001) and violation of article 1 (Table 1).

A significant association was also observed between the legal nature of the place of incident (p=0.002) and penalty (p=0.018) with the most frequently infringed article 1 sub-items (Table 2).

Table 1. Association between sociodemographic and contextual-procedural variables and violation of article 1.

Variable	Category	Violation of article 1			
		No	Yes	Total	*p* value
Gender	Female	110 (20.6%)	44 (16.7%)	154 (19.3%)	0.219
	Male	424 (79.4%)	220 (83.3%)	644 (80.7%)	
Age group	≤30	36 (6.7%)	30 (11.4%)	66 (8.3%)	0.009
	(30-50)	280 (52.4%)	112 (42.4%)	392 (49.1%)	
	>50	218 (40.8%)	122 (46.2%)	340 (42.6%)	

continues...

Table 1. Continuation

Variable	Category	Violation of article 1			
		No	Yes	Total	*p* value
Time practicing medicine	≤10	139 (26.0%)	71 (26.9%)	210 (26.3%)	0.868
	(10-20)	122 (22.8%)	56 (21.2%)	178 (22.3%)	
	>20	273 (51.1%)	137 (51.9%)	410 (51.4%)	
Legal nature of undergraduate school	Private	238 (44.6%)	128 (48.5%)	366 (45.9%)	0.332
	Public	296 (55.4%)	136 (51.5%)	432 (54.1%)	
State of undergraduate school	Minas Gerais	388 (72.7%)	182 (68.9%)	570 (71.4%)	0.332
	Rio de Janeiro	80 (15.0%)	42 (15.9%)	122 (15.3%)	
	Espírito Santo	20 (3.7%)	18 (6.8%)	38 (4.8%)	
	Other	46 (8.6%)	22 (8.3%)	68 (8.5%)	
Specialty	Specialist	308 (57.7%)	149 (56.4%)	457 (57.3%)	0.797
	Generalist	226 (42.3%)	115 (43.6%)	341 (42.7%)	
Type of complainant	CRM-MG ex officio	313 (58.6%)	124 (47.0%)	437 (54.8%)	<0.001
	Physician	89 (16.7%)	8 (3.0%)	97 (12.2%)	
	Patients and family members/legal entity	132 (24.7%)	132 (50.0%)	264 (33.1%)	
Legal nature of the place of incident	Private	295 (55.2%)	70 (26.5%)	365 (45.7%)	<0.001
	Public	239 (44.8%)	194 (73.5%)	433 (54.3%)	
Place of incident	State capital	127 (23.8%)	48 (18.2%)	175 (21.9%)	0.087
	Countryside	407 (76.2%)	216 (81.8%)	623 (78.1%)	
Penalty	A and B	369 (69.1%)	146 (55.3%)	515 (64.5%)	<0.001
	C	140 (26.2%)	107 (40.5%)	247 (31.0%)	
	D and E	25 (4.7%)	11 (4.2%)	36 (4.5%)	

Table 2. Association between sociodemographic and contextual-procedural variables and the most infringed article 1 sub-items

Variable	Category	Recklessness	Negligence	Negligence and recklessness	Other	Total	*p* value
Gender	Female	5 (14.7%)	30 (19.5%)	7 (11.5%)	2 (13.3%)	44 (16.7%)	0.517
	Male	29 (85.3%)	124 (80.5%)	54 (88.5%)	13 (86.7%)	220 (83.3%)	
Age group	≤30	0 (0.0%)	19 (12.3%)	9 (14.8%)	2 (13.3%)	30 (11.4%)	0.106
	(30-50)	21 (61.8%)	58 (37.7%)	25 (41.0%)	8 (53.3%)	112 (42.4%)	
	>50	13 (38.2%)	77 (50.0%)	27 (44.3%)	5 (33.3%)	122 (46.2%)	
Time practicing medicine	≤10	11 (32.4%)	35 (22.7%)	18 (29.5%)	7 (46.7%)	71 (26.9%)	0.431
	(10-20)	8 (23.5%)	32 (20.8%)	13 (21.3%)	3 (20.0%)	56 (21.2%)	
	>20	15 (44.1%)	87 (56.5%)	30 (49.2%)	5 (33.3%)	137 (51.9%)	

continues...

Table 2. Continuation

Variable	Category	Recklessness	Negligence	Negligence and recklessness	Other	Total	*p* value
Legal nature of undergraduate school	Private	14 (41.2%)	79 (51.3%)	27 (44.3%)	8 (53.3%)	128 (48.5%)	0.616
	Public	20 (58.8%)	75 (48.7%)	34 (55.7%)	7 (46.7%)	136 (51.5%)	
State of undergraduate school	Minas Gerais	24 (70.6%)	100 (64.9%)	47 (77.0%)	11 (73.3%)	182 (68.9%)	0.812
	Rio de Janeiro	5 (14.7%)	27 (17.5%)	7 (11.5%)	3 (20.0%)	42 (15.9%)	
	Espírito Santo	3 (8.8%)	11 (7.1%)	3 (4.9%)	1 (6.7%)	18 (6.8%)	
	Other	2 (5.9%)	16 (10.4%)	4 (6.6%)	0 (0.0%)	22 (8.3%)	
Specialty	Specialist	19 (55.9%)	86 (55.8%)	37 (60.7%)	7 (46.7%)	149 (56.4%)	0.789
	Generalist	15 (44.1%)	68 (44.2%)	24 (39.3%)	8 (53.3%)	115 (43.6%)	
Type of complainant	CRM-MG ex officio	14 (41.2%)	74 (48.1%)	31 (50.8%)	5 (33.3%)	124 (47.0%)	0.105
	Physician	1 (2.9%)	2 (1.3%)	5 (8.2%)	0 (0.0%)	8 (3.0%)	
	Patients and family members/ Legal entity	19 (55.9%)	78 (50.6%)	25 (41.0%)	10 (66.7%)	132 (50.0%)	
Legal nature of the place of incident	Private	15 (44.1%)	30 (19.5%)	17 (27.9%)	8 (53.3%)	70 (26.5%)	0.002
	Public	19 (55.9%)	124 (80.5%)	44 (72.1%)	7 (46.7%)	194 (73.5%)	
Place of incident	State capital	7 (20.6%)	31 (20.1%)	9 (14.8%)	1 (6.7%)	48 (18.2%)	0.504
	Countryside	27 (79.4%)	123 (79.9%)	52 (85.2%)	14 (93.3%)	216 (81.8%)	
Penalty	A and B	11 (32.4%)	93 (60.4%)	32 (52.5%)	10 (66.7%)	146 (55.3%)	0.018
	C	21 (61.8%)	55 (35.7%)	28 (45.9%)	3 (20.0%)	107 (40.5%)	
	D and E	2 (5.9%)	6 (3.9%)	1 (1.6%)	2 (13.3%)	11 (4.2%)	

Discussion

From 2012 to 2022, 1,660 doctors in Minas Gerais underwent trial, representing 2.7% of the total number of physicians in the state in 2022 [25]. Of these, 29.8% (495) were involved in cases related to article 1 and 53.3% (264) of these cases resulted in convictions, corresponding to 0.8% and 0.4% of the total number of physicians in the state in 2022, respectively [25]. Most tried physicians were men (80%). Although medical demographic data in Brazil reveal a majority of male physicians up to 2024, the gender gap was much smaller than that observed here, with values almost equalizing both genders [18]. Mean age found in cases related to article 1 was 46.3 years, with most complaints involving physicians aged 30 to 50, 47% of whom with over 20 years of experience. This finding contrasts with the rejuvenation observed in the medical demographics of Minas Gerais and Brazil, which shows a growing number of professionals under the age of 40 [25].

Most complaints were filed by patients and family members (52%) and occurred mainly in public institutions in the countryside of Minas Gerais (77%). Negligence emerged as the most common offense (61.8%), with a 49.2% confirmation rate. At CRM/MG, negligence and malpractice presented the highest acquittal rates (50.8% and 80%) while other violations in article 1 resulted in more convictions. As for appeals to the CFM, the CRM/MG decision was upheld in 66% of negligence cases, a figure similar to that observed for most violations of article 1 and its respective associations. We identified associations between sociodemographic factors

(age group) and contextual-procedural factors (type of complainant, legal nature of the place of incident, and penalty) and violations of article 1; and between the article sub-items, legal nature of the place of incident, and penalty.

Demographic characteristics of the physicians brought to trial, especially the predominance of male professionals, corroborate the findings of previous investigations [5,6,17]. Such asymmetry, however, seems to reflect a historical configuration of professional integration in medicine rather than inherent conduct differences between genders [26]. In fact, data from *Medical Demographics in Brazil 2023* [25] indicate that, between 2012 and 2022, the percentage of male physicians persisted despite continuous growth in female participation, which rose from 42.4% in 2012 to 48.6% in 2022, in a gradual approach towards a more equitable distribution between genders. Considering the age group of convicted professionals and the gradual feminization of medicine, this disparity may express a structural legacy rather than behavioral inequality [26]. However, a more in-depth and interdisciplinary analysis is required to grasp the sociocultural and institutional nuances that shape gender relations in the contemporary medical field, thereby avoiding simplistic interpretations that reduce complex phenomena to mere demographic statistics.

Age analysis of the convicted professionals showed a large predominance of those aged 30 to 50 (45%), with a mean age of 46.3 years, a result consistent with previous findings that indicated a higher incidence of infractions among physicians aged 31 to 50 (65.8%) [6]. As discussed, this age pattern contrasts with the rejuvenation observed in contemporary medical demographics, both in Minas Gerais and in Brazil, marked by an increase in the number of professionals under 40 [25]. Previous studies have also reported similar means, such as 44 years, ranging from 24 to 71 years [5], and a predominant range between 40 and 65 years [17], which confirms the persistence of this age profile among physicians involved in ethical-disciplinary proceedings.

Regarding time practicing medicine, 40.7% of the offending physicians had over 20 years of professional experience, a finding that differs from another study, in which most of those sanctioned had between 11 and 20 years of experience [6]. According to CFM analyses, the higher incidence of violations among more experienced professionals may be associated with psychosocial burnout resulting from long working hours and multiple employment relationships, often linked to emotional deterioration and lower adherence to technical, ethical, and communication training processes [27]. Combined, these factors outline a context in which accumulated experience, although valuable, can paradoxically expose professionals to greater ethical vulnerability in medical practice [27].

Authors like Klein [28] and Groopman [29] show that while increasing technical safety, prolonged experience favors the development of cognitive automatisms and overconfidence which can reduce critical vigilance and reflective capacity in complex situations. Similarly, Reason [30] argues that accumulated experience does not immunize professionals against error but, on the contrary, can reinforce rigid mental patterns that lead to negligence or recklessness, especially when overworked.

In total, 51% of offenders graduated from public institutions, a percentage that significantly exceeds the proportion of public vacancies in Minas Gerais (27.9%) [25]. Such result should be interpreted in light of the history of medical education in the state and in Brazil, given that public universities were responsible for training most of practicing physicians for decades [29,31]. These older, more established institutions have contributed to academically qualify the generations that today make up the group of professionals with the longest careers—precisely those most frequently involved in ethical and disciplinary proceedings in this analysis.

Regarding specialized training, 38% of offending physicians had no formal specialization, followed by 17% of gynecologists and obstetricians, 12% of general surgeons, and 9% of occupational physicians. Notably, these results are consistent with previous studies which identified a significant percentage of physicians without specialization (27%), followed by gynecologists and obstetricians (24.8%) and general surgeons (9.4%) [5]. Another study indicated that 28.9% of offenders were specialists in clinical medicine, 23% in gynecology and obstetrics, and

11.7% in general surgery [6], while a third study highlighted orthopedics and traumatology and general surgery as the specialties most commonly involved in violations [17].

Considering that in 2022 Minas Gerais accounted for 63.4% of physicians with specialist titles, this profile gains significance when compared with the distribution structure of specialties in the state [25]. For example, although representing only 10.3% of the total number of specialists in Minas Gerais in 2022 [25], gynecologists and obstetricians accounted for 17% of professionals sanctioned, suggesting overrepresentation related to the intimate and sensitive nature of this area of practice, marked by vulnerability, consent issues, and reproductive decisions.

Similarly, occupational physicians—who account for 7.1% of specialists in Minas Gerais in 2022 [25] and 9% of violations—face ethical dilemmas specific to their role, which requires constant mediation between the interests of patients and employers. General surgeons, in turn, although not among the most prevalent specialties in the state in 2022 [25], stood out among offenders, reinforcing the hypothesis that interventionist specialties, which present high technical risk and highly complex decisions, are more prone to ethical conflicts and disciplinary infractions [5].

Moreover, the significant percentage of physicians without formal specialization (38% in this study) raises concerns, since 36.6% of Minas Gerais physicians in 2022 were general practitioners according to the 2023 medical demographic survey [25]. These data suggests that the lack of specialized qualification increases exposure to critical clinical decision-making contexts, especially in settings with less technical or institutional support.

Also notable is the geographical distribution of the complaints: 77% were registered in the state countryside, a percentage higher than the overall distribution of physicians in Minas Gerais in 2022, among whom 64.9% worked outside the capital [25]. A similar pattern of concentration emerges in Pereira Filho [6], who identified inequality in the distribution of physicians in São Paulo—49% worked in the capital despite 73% of the state population residing in the countryside—and highlighted that this poor distribution could be one of the contributing factors to the greater vulnerability to medical error in the state countryside. According to the author, precarious infrastructure, scarce healthcare resources, and distance from major referral centers create conditions that weaken medical practice and increase the risk of errors and ethical violations in rural areas [6].

Finally, regarding the legal nature of the place of infraction, 75% of the cases were registered in public settings. This result aligns with a study that identified a similar percentage (80.1%) of infractions in public institutions [5], although another study found that occurrences predominate in the private sector (66.2%) [6]. Such a higher incidence of infractions in public units can be interpreted based on structural and organizational determinants that characterize the Brazilian public health system, since public units concentrate most of the Unified Health System (SUS) services which, according to the Brazilian Institute of Geography and Statistics (IBGE) [32] and the Ministry of Health [33], is responsible for providing care to about 75% of the Brazilian population—especially in areas of medium and high complexity. Moreover, physicians working in public services face a reality marked by work overload, scarcity of resources, and increasing demand for care, conditions that impose intense physical and emotional strain and increase the likelihood of ethical and technical errors [25,29,31].

In settings lacking resources, support infrastructure, and adequate opportunities for professional development, implementation of safety protocols becomes limited and the occurrence of errors tends to increase, often without deliberate negligence [5]. This reality is not unique to Brazil, also being described in underfunded healthcare systems where occupational stress and professional burnout are directly associated with the incidence of errors and the loss of quality of care [34]. Ethical violations committed in public settings must therefore be understood in light of the structural and organizational complexity that characterizes the Unified Health System (SUS), which points to the need for policies aimed at improving working conditions and strengthening the infrastructure of these healthcare services.

Negligence emerging as the most common infraction corroborates the results of previous

research, according to which 67.3% of violations were negligence-related [5]. Similarly, when analyzing the same article, Pereira Filho [6] observed an approximate distribution, with 54% of the violations attributed to negligence. These data reveal the persistent prevalence of negligence as a relevant ethical violation, and the need for greater focus on professional diligence and continuous vigilance of medical conduct to mitigate patient harm and strengthen accountability in medical practice.

Recklessness, "negligence and malpractice" and "malpractice and recklessness" presented considerable rates of proven occurrence and relatively low acquittal rates, which could suggest that these offenses involved conduct that was more easily identifiable and supported by objective evidence, making acquittal less likely. Conversely, the scarce confirmation of wrongdoing in cases of malpractice could be related to the complexity of clearly and unequivocally establishing the lack of technical competence necessary for proper medical practice, given the specialized and diverse nature of medicine.

Negligence and malpractice, when analyzed in isolation, were more frequently associated with acquittal, probably due to the complexity and difficulty of proving guilt given the subjective nature of these concepts. When subjected to individual interpretation, they could become susceptible to different assessments, which may have hindered the construction of conclusive evidence and, consequently, the unequivocal definition of the defendant's responsibility. Bitencourt and collaborators found similar results [5]. In contrast, "negligence and malpractice" and recklessness exhibited a substantially higher conviction rate, which could be related to the severity of these offenses when combined. Bitencourt and collaborators [5] found similar data regarding recklessness, highlighting that the higher conviction rate of physicians accused of recklessness is due to the ease of proving this inappropriate professional conduct in the records of an ethical-professional process.

Negligence, recklessness, and "negligence and recklessness" in combination accounting for a greater number of cases punished under the clause of public censure could be attributed to the seriousness of these inappropriate behaviors, which led the panel to opt for public punishment when proven. Revocation, the most drastic measure, was predominantly applied to negligence, suggesting that more serious proven cases of this misconduct more frequently called for the extreme measure.

Low incidence of appeals in cases of negligence, malpractice, and recklessness could suggest that the decision of the competent body was considered adequate by most parties. However, violations related to "malpractice and recklessness" and "negligence, malpractice, and recklessness" notably presented a higher frequency of appeal requests, indicating greater controversy or dissatisfaction with the decisions made. This could suggest that the complexity of the offenses affects the parties' propensity to contest the sanctions applied, since the legal repercussions of said sanctions end up being of great relevance.

Analysis of the results of appeals filed with the CFM revealed distinct trends, varying according to the type of infraction. Regarding negligence, as well as other violations related to article 1 and their respective associations, most CRM/MG decisions were upheld, suggesting that in many cases CFM adequately judged the infraction. Conversely, infractions characterized by "malpractice and recklessness" and "negligence and malpractice" tended towards a reduction in penalties by the CFM, which could be related to the specific characteristics of these cases. Severity increase of the penalty, observed in certain complaints of negligence, points to a possible case review due to new evidence found that justified the imposition of a more severe penalty. Importantly, however, the included cases were not evaluated individually, and the conclusions presented are based exclusively on statistical data. Moreover, each trial has unique characteristics, as do the panel decisions, which vary according to the particularities of the situation.

Initially, the analysis looked only at individual descriptive data without searching for correlations between variables, which allowed for a preliminary view of the information in isolation. It allowed us to identify the general characteristics of the accused physicians and the ethical-professional proceedings related to article 1 of the CEM without, however, delving into the interconnections between the

various factors involved. Next, the research progressed to a more complex and detailed phase in which we examined the statistical relations between the variables. This new analytical stage enabled detecting patterns and interactions that, when carefully analyzed, can offer a more comprehensive and enlightening understanding of the elements that influenced ethical and professional litigations.

With the new approach, we identified associations between article 1 and sociodemographic (age group) and contextual-procedural variables (type of complainant, legal nature of the place of incident, and penalty). Physicians under 30 and over 50 years of age were more likely to violate article 1, possibly reflecting different challenges faced by these groups. Younger professionals, still in the early stages of their careers, presented less practical experience and less ethical maturity, which made them more susceptible to conduct characterized by negligence, malpractice, and recklessness. Inexperience can compromise one's ability to make appropriate clinical decisions, especially in highly complex and high-pressure situations. More experienced physicians, in turn, might be subject to the crystallization of professional habits that sometimes deviate from ethical updates and best practices, and therefore end up showing a propensity to violate this normative provision compared with other articles [28-30]. An author who performed a similar analysis found no statistical association between these variables [35].

Complaints predominantly came from patients, family members, and legal entities regarding violations of article 1, suggesting that cases involving malpractice, recklessness, or negligence attract greater attention from these individuals due to the severity of the direct impacts on quality of medical care. This pattern could indicate a higher level of social scrutiny regarding behaviors that compromise patient safety.

Private institutions accounted for less violations of article 1 compared to other ethical infractions, which could be associated with differences in governance and regulatory models between the public and private sectors, a result similar to that obtained in another study on the subject [5]. Private sector institutions, often more regulated and subject to greater internal scrutiny, might benefit from stricter protocols to mitigate the risks of medical error. The public sector, characterized by an overburdened healthcare system and limited resources, could provide an environment more prone to failures in the delivery of care [29,31].

Subparagraph "c" penalty predominated in violations of article 1, indicating a more severe pattern of sanctions due to direct patient harm resulting from intentional direct or indirect conduct related to negligence, malpractice, or recklessness. This could reinforce the seriousness attributed to violations of this article and, at the same time, the need to protect the integrity and safety of patients during medial practice. A similar analysis found no statistical association between these variables [35], nor between article 1 and gender, the presence or absence of a specialization, and time practicing medicine [35], similarly to our research.

In this context, it was also of utmost importance to direct the analysis towards new variables that proved relevant to understanding ethical and professional litigations. Such variables encompassed the most frequently violated sub-items of article 1 ("recklessness," "negligence," and "recklessness and negligence") and sociodemographic and contextual-procedural factors. Legal nature of the place of incident and penalty were associated with the sub-items.

Results indicated a correlation between the institutional setting and the type of infraction committed in relation to article 1. High frequency of negligence cases in public institutions could be related to the often unfavorable structural conditions in this sector, such as work overload, lack of resources and high demand for care [29,31], which can impair adequate patient care and increase the likelihood of professional misconduct.

Recklessness was least punished under subparagraphs "a" and "b" compared with the other article 1 violations, suggesting that recklessness is related to more serious conduct and, therefore, would require more severe sanctions since it is characterized by impulsive actions without due caution, thus justifying the application of more rigorous penalties when compared with negligence, which often results from an omission that is not always voluntary.

This study presents some limitations that must be considered when interpreting its results.

National scientific literature focused on the analysis of ethical-professional litigations involving Brazilian physicians, especially those related to malpractice, recklessness, and negligence, is scarce and posed a challenge for adequately contextualizing the findings and for conducting consistent comparisons with previous research. Moreover, the restriction on access to more detailed information about the processes analyzed limited exploring the circumstances that culminated in the violations of article 1.

Another limitation concerns the impossibility of obtaining the complete collegiate of medical professionals working in Minas Gerais from 2012 to 2022, which led to the adoption, as a comparative parameter, of the demographic data available for 2022 [25]. This strategy allowed, albeit partially, to situate the study results in relation to the structure and distribution of the medical category in the state in the last year of the adopted time series.

Such limitations, while relevant, do not compromise the internal validity of the results obtained, consistently reflecting the trends observed in the analyzed set. However, they highlight the need for further studies that delve deeper into the ethical dimensions of medical practice in Brazil, which could facilitate comparative analyses between regions, historical periods, and specialties, thus contributing to improve institutional policies for regulation and ethical education in the medical profession.

Final considerations

Analyzing data from 1,660 physicians who underwent trial, 495 (29.8%) were found to have violated article 1 of the CEM, of which 264 (53.3%) were found guilty. Most physicians were male (80%), with a mean age of 46.3 years and 19.8 years since graduation. Most violations involved physicians aged 30 to 50 (45%) with over 20 years of experience (47%). Of those reported, 38% did not have a registered specialty; of those who did, most were gynecologists/obstetricians (17%) and general surgeons (12%). Complaints came mainly from patients and family members (52%) and occurred mostly in the state countryside (77%), with 75% of violations taking place in public institutions.

Negligence was the most frequently cited violation of article 1 (61.8%), although it was confirmed in only 49.2% of cases. The associations "negligence and malpractice" and "malpractice and recklessness" showed considerable 72.7% and 75% violation rates, respectively, whereas malpractice was confirmed in only 20% of cases. Regarding the CRM/MG decisions, negligence and malpractice showed a higher acquittal than conviction rate, whereas all other violations related to article 1 showed higher conviction than acquittal rates, with the highest conviction rates for "negligence and malpractice" and recklessness (72.7% and 71.4%, respectively). Public censure was the most common sanction, especially for negligence (18%), recklessness (42.9%), and "negligence and recklessness" (25.6%). Negligence resulted in the most license revocations, totaling 0.9% of occurrences.

Most negligence cases did not generate appeals with the CFM (62.7%). Conversely, associated infractions such as "malpractice and recklessness" and "negligence, malpractice and recklessness" generated significant appeal rates, at 62.5% and 80%, respectively. This reveals that the complexity of the violations affects the parties' propensity to contest the sanctions applied, since the legal repercussions of these sanctions end up being of great importance. As for negligence, CRM/MG decisions were upheld in 66% of cases despite appeals. In contrast, violations related to "malpractice and recklessness" and "negligence and malpractice" were frequently mitigated by the CFM in 75% and 100% of cases, respectively. The only violation for which the penalty was increased was negligence, with an incidence of 6.4%.

Statistical analysis of sociodemographic and contextual-procedural variables revealed important associations between article 1 and age group, type of complainant, legal nature of the place of incident, and penalty. Higher propensity for violations among physicians under 30 and over 50 may reflect specific challenges faced by these groups. Younger doctors may have less experience and ethical maturity, while more experienced doctors may have entrenched, outdated professional habits. Most complaints came from patients and family members, suggesting that infractions related to negligence, malpractice, and

recklessness generate greater social scrutiny due to the direct impact on the quality of medical care.

Violations of article 1 occurred more frequently in public institutions (77%), possibly due to work overload and limited resources, compared to the private sector. Predominance of subparagraph "c" in violations of article 1 suggests severity in sanctions due to the seriousness of this infraction, as it causes direct patient harm.

Additionally, new variables were explored such as the most frequently violated sub-items of article 1—"recklessness," "negligence," and "recklessness and negligence." Associations between these violations and the legal nature of the place of incident reinforces the importance of the structural conditions of healthcare institutions in preventing ethical errors. High frequency of negligence in public institutions suggests that overload and lack of resources are factors that increase vulnerability to these violations in these settings. Negligence was least punished under subparagraphs "a" and "b" compared with the other infractions related to article 1, suggesting that this inappropriate professional act is related to more serious conduct and, therefore, demands more severe sanctions.

From a bioethical standpoint, our results show that the ethical infractions analyzed are not limited to violations of deontological norms, but represent failures in observing bioethical principles. Negligence, recklessness, and malpractice reveal the struggle between the ethical ideal of care and the concrete conditions of medical practice, especially in the SUS. The study reveals the urgent need for policies that value ongoing ethical education, institutional supervision, and improved working conditions, aiming not only to punish misconduct but also to promote a culture of responsibility and respect for human dignity in medical practice.

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